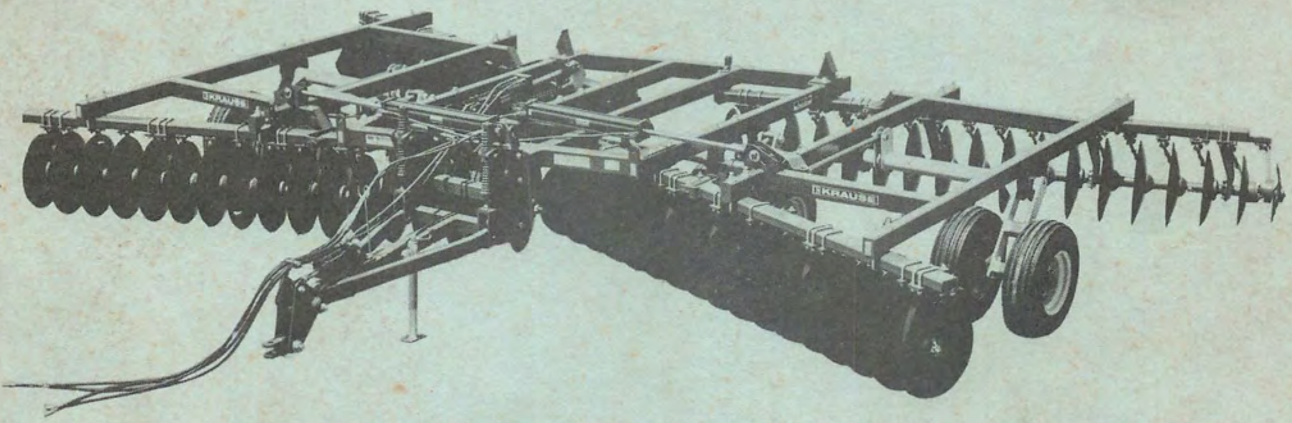
KRAUSE

OWNER'S MANUAL

4900
With Serial
№ 1239 On



FLEX-WING TANDEM DISC HARROW

RIGID MODELS
4901, 4904, 4906, 4907,
4912, 4915, 4916, 4918.

ROCK FLEX MODELS
4921, 4924, 4926, 4927,
4932, 4935, 4936, 4938.

KRAUSE

305 SOUTH MONROE STREET HUTCHINSON, KANSAS 67501

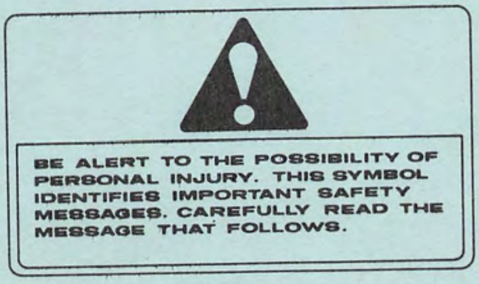
2/84

CONGRATULATIONS

You have just purchased a quality designed and manufactured Krause tillage tool. Advanced features have been designed into the implement for modern farming operations. As with any investment, a return is expected, and the return received from this investment will be in the form of maximum tillage performance during many years of dependable service.

In order to maintain quality performance of the new Krause implement, it is important that all the information in the manual be reviewed and studied carefully before operation. The contents provide operating instructions, maintenance instructions and how to make adjustments.

SAFETY ALERT SYMBOL



BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY. THIS SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES. CAREFULLY READ THE MESSAGE THAT FOLLOWS.

MODEL NUMBER______________ SERIAL NUMBER______________

PURCHASE RECORD--DATE______________

Krause Plow Corporation reserves the right to change any design or specifications without notice or obligations.

Warranty

KRAUSE PLOW CORPORATION

HUTCHINSON, KANSAS

THE KRAUSE PLOW CORPORATION, HUTCHINSON, KANSAS, EXPRESSLY WARRANTS EACH NEW PRODUCT MANUFACTURED BY IT TO BE FREE FROM DEFECTS IN MATERIAL AND WORKMANSHIP UNDER NORMAL USE AND SERVICE FOR A PERIOD OF ONE YEAR AFTER DELIVERY TO THE ORIGINAL RETAIL PURCHASER OR FIRST USER OF THE PRODUCT.

KRAUSE'S OBLIGATION UNDER THIS WARRANTY IS LIMITED TO REPAIRING AND/OR REPLACING, AT ITS OPTION, ANY PART OR PARTS WITHIN THE APPLICABLE ONE YEAR PERIOD, AS SET OUT ABOVE, WHICH SHALL BE RETURNED BY THE OWNER OR ANY KRAUSE AUTHORIZED DEALER TO THE FACTORY AND WHICH UPON EXAMINATION SHALL DISCLOSE TO KRAUSE'S SATISFACTION TO BE DEFECTIVE.

KRAUSE MAY, AT ITS OPTION, ELECT TO GRANT ADJUSTMENTS IN THE FIELD THROUGH AN AUTHORIZED REPRESENTATIVE AND MAY THEREBY ELECT TO WAIVE THE REQUIREMENT THAT PARTS BE RETURNED TO KRAUSE'S FACTORY.

A NEW WARRANTY PERIOD IS NOT ESTABLISHED FOR REPLACEMENTS. REPLACEMENTS ARE WARRANTED FOR THE REMAINING PORTION OF THE ONE YEAR ORIGINAL WARRANTY PERIOD. THE REPAIR OR REPLACEMENT OF DEFECTIVE PARTS UNDER THIS WARRANTY WILL BE MADE WITHOUT CHARGE TO THE OWNER EXCEPT FOR TRANSPORTATION.

KRAUSE DOES NOT WARRANT DISC BLADES, TIRES, CHISEL SHANKS, HYDRAULIC CYLINDERS, ACCESSORIES AND OTHER PARTS NOT MANUFACTURED BY IT BUT SUPPLIED WITH OR AS A PART OF ITS PRODUCTS. KRAUSE WILL, HOWEVER, OBTAIN AND PASS ON ANY ADJUSTMENTS PROVIDED BY THE MANUFACTURERS OF SUCH PARTS UNDER THESE MANUFACTURER'S WARRANTIES.

THE PROVISIONS OF THIS WARRANTY DO NOT APPLY TO ANY PRODUCT OR PARTS WHICH HAVE BEEN SUBJECT TO MISUSE, NEGLIGENCE OR ACCIDENT, OR WHICH HAVE BEEN REPAIRED OR ALTERED OUTSIDE OF KRAUSE'S FACTORY IN ANY WAY SO AS IN THE JUDGEMENT OF KRAUSE TO AFFECT ADVERSELY ITS PERFORMANCE OR RELIABILITY. NEITHER DOES THIS WARRANTY APPLY TO NORMAL MAINTENANCE SERVICE AND PARTS, OR TO NORMAL DETERIORATION DUE TO WEAR AND EXPOSURE.

TO THE EXTENT ALLOWED BY APPLICABLE LAW, THIS WARRANTY IS EXPRESSLY IN LIEU OF OTHER WARRANTIES, EXPRESSED OR IMPLIED, IN FACT OR BY LAW, INCLUDING ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE. THE REMEDIES OF REPAIR OR REPLACEMENT AS SET FORTH ARE THE ONLY REMEDIES UNDER THIS WARRANTY. KRAUSE DISCLAIMS ANY OBLIGATIONS OR LIABILITY FOR LOSS OF TIME, INCONVENIENCE, COMMERCIAL LOSS OR DIRECT, CONSEQUENTIAL, SPECIAL OR INCIDENTAL DAMAGES. THIS WARRANTY IS IN LIEU OF ANY OTHER OBLIGATION OR LIABILITY OF KRAUSE OF ANY NATURE WHATSOEVER BY REASON OF THE MANUFACTURE, SALE , LEASE OR USE OF SUCH PRODUCTS AND KRAUSE NEITHER ASSUMES, NOR AUTHORIZES ANYONE TO ASSUME FOR IT, ANY OTHER OBLIGATION OR LIABILITY IN CONNECTION WITH SUCH PRODUCTS.

4900 SERIES WING TANDEM
DEALER PREDELIVERY CHECK
TO BE CHECKED BY DEALER

CUSTOMER____________________________________ DATE________________

ADDRESS____________________________________ COUNTY______________

DEALER____

ADDRESS____________________________________ COUNTY______________

MODEL NUMBER____________________ SERIAL NUMBER____________________

DEALER CHECK:

1._____Check to see that all rocker shaft bolts are tight and pins are in place.

2._____Check to see that hydraulic cylinders are full of oil (air bled out of cylinders). Clevis pins with hair pin clips should be in place. Hydraulic system requires 19 Quarts / 18 Liters of oil.

3._____Examine hydraulic hoses to see that they are protected from damage.

4._____Bolts attaching the spindle weldments to the rocker shaft should be tight. Check to see that bearings have been adjusted and greased.

5._____Check lug bolts holding wheels to the hub to see that they are torqued from 90 to 95 Ft. Lbs. / 120 N · m.

6._____The correct size tire, 11L X 15, 6-Ply with 32 PSI / 260 kPa pressure should be on the implement. Dual 9.5L X 15, 6-Ply tires should have 32 PSI / 220 kPa.

7._____Check to see that bolts attaching hitch to frame and clevis weldment to hitch are in place and tightened.

8._____Jack should be operational for support of tongue when implement is not attached to a tractor.

9._____Wings are attached with special pins and secured with slotted nut and cotter pin.

10._____Wing and road lock are correctly installed and operate satisfactorily.

11._____Restrictors are installed in wing lift cylinder rod end ports.

12._____All decals are in place per page A28 of this owner's manual.

13._____Customer review sheet is filled out and signed.

DELIVERED BY____________________________

DATE____________________________

4900 SERIES WING TANDEM
CUSTOMER REVIEW SHEET

CUSTOMER________________________________ DATE______________

ADDRESS_________________________________ COUNTY____________

DEALER____

ADDRESS_________________________________ COUNTY____________

MODEL NUMBER____________________ SERIAL NUMBER_______________

1. _____Owner's manual provided.
2. _____Warranty card filled out and mailed.
3. _____Review safety warnings and cautions as listed in this owner's manual.
4. _____Review recommended maximum road speed, width, and height for implement.
5. _____Review field operational speeds, horsepower, depth, and rock conditions.
6. _____Demonstrate the proper use of road and wing locks.
7. _____Explain hydraulic cylinder stroke control for depth control of tillage tool.
8. _____Review limitations of additional weight and transport speed when adding attachments.
9. _____Explain the importance of maintaining the tools through lubrication, checking that bolts are kept tight, and replacement of worn or broken parts.
10. _____Recommend that a safety chain be used with the tool.
11. _____Check wheel lug bolts frequently until they become set.

DEALER__________________________ DATE______________

CUSTOMER________________________ DATE______________

CONTENTS

WARRANTY
DEALER PREDELIVERY CHECK SHEET
CUSTOMER REVIEW SHEET
TABLE OF CONTENTS 1
TRANSPORT INFORMATION 2
SPECIFICATIONS CHART 3
GENERAL INFORMATION PHOTOGRAPH 4
TRANSPORT PHOTOGRAPH 5
GENERAL INFORMATION DRAWING 6

OPERATING SECTION

SAFETY FIRST O1
ABOUT YOUR TANDEM DISC O2
PREPARING HARROW FOR OPERATION O2
PREPARING THE TRACTOR O3
HYDRAULIC SYSTEM O3
HITCHING AND UNHITCHING O3
Hitching To The Tractor O4
Unhitching From The Tractor O4
TRANSPORTING
Road Lock O5
Raising The Wings O5
Transport Safety O6
FIELD ADJUSTMENTS O7
Front To Rear Leveling O7
Converting To Low Drawbar O7
Side To Side Leveling O8
Flexibility O8
Disc Gang Spacing O9
Rigid Scraper Adjustments O10
Spring Scraper Adjustments O10
Trash Bars O11
FIELD OPERATION
Working Depth O11
Controlled Depth O11
Turning In The Field O12
General Information O12
STORAGE SUGGESTIONS O12
SERVICING O13
General Maintenance O13
Lubrication O13
Wheel Bearings O13
Hydraulics O14
Disc Gangs O14
Repair Parts O15
REMEDIES FOR FIELD PROBLEMS O16 - O19

PARTS SECTION

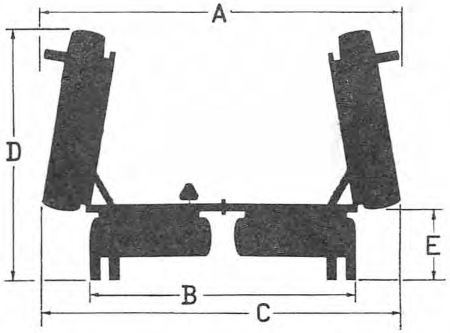
MAIN FRAME AND GANG BEAMS P2
STANDARD & HYDRAULIC TONGUES P4
MAIN ROCKER SHAFTS P6
WING FRAMES P8
WING ROCKER SHAFTS P10
HUB ASSEMBLY (Standard) P11
HUB ASSEMBLY (Optional) P12
RIGID BEARING ARM ASSEMBLIES P13
MIDDLE BEARING ARM KITS P14
ROCK FLEX BEARING ARM ASSEMBLY P16
TIE RODS P17 - P18
SPACER SPOOLS P19
TRAIL HITCH ASSEMBLY P20
DISC BLADES, WHEELS & TIRES P22
RIGID SCRAPERS (3-1/2") P23
RIGID SCRAPERS (5") P24
SPRING LOADED SCRAPERS P26
TRASH BARS P27
EXTENSION TRASH BARS P28
REAR JACK MOUNT P30
HYDRAULIC HOSE KITS:
Standard Hose Kit P32
With Hydraulic Tongue P34
Hyd. Tongue & Alternate Plumbing P36
CESSNA HYDRAULIC CYLINDER P37
STROKE CONTROL KIT P38
PRINCE HYDRAULIC CYLINDERS:
4" X 32" Wing Lift P39
3" X 5" Tongue Leveling P40
DECALS & REFLECTORS P41

ASSEMBLY SECTION

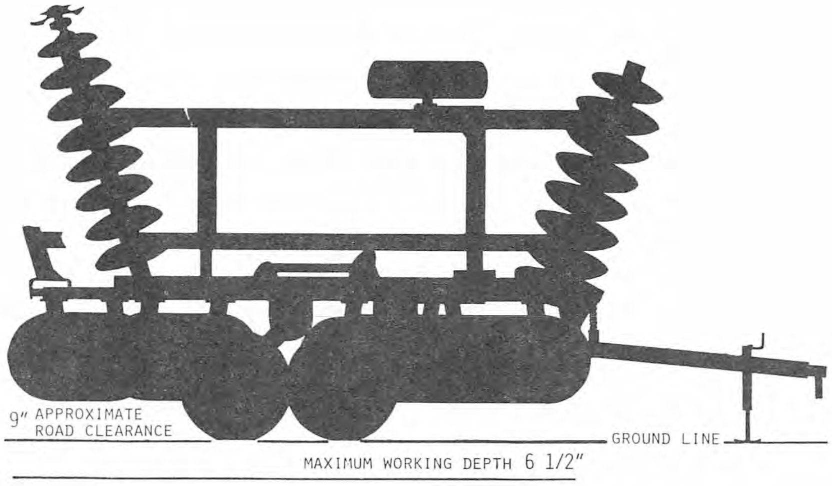
SAFETY A2
ASSEMBLY AREA A2
PART LOCATIONS A2
ASSEMBLY STEPS A2
MODEL NUMBER A2
CENTER FRAME, ROCKER & WHEELS A3
WHEEL & TIRE LOCATIONS A6
TONGUE ASSEMBLY A7
Hydraulic Tongue Assembly A9
ROAD LOCK A10
CENTER GANG BEAM ASSEMBLY A10
DISC GANG ASSEMBLY/ATTACHMENT A12
RIGID SCRAPER ASSEMBLY A16
SPRING LOADED SCRAPERS A17
ROCK FLEX TRASH BARS A18
WING FRAME ASSEMBLY A19
WING ROCKER & CONNECTING LINKS A20
WING TIRE & HUB ASSEMBLY A22
WING DISC GANG & SCRAPERS A23
HYDRAULICS A24
Charging The Cylinders A25
WING LOCKS A26
DECAL ATTACHMENT A26

PLACEMENT PAGES FOR MODELS:

MODEL PAGE	MODEL PAGE	MODEL PAGE
4901 - A28	4916 - A40	4932 - A52
4904 - A30	4918 - A42	4935 - A54
4906 - A32	4921 - A44	4936 - A56
4907 - A34	4924 - A46	4938 - A58
4912 - A36	4926 - A48	
4915 - A38	4927 - A50	



NOTE: ADDITION OF TINE OR SPIKE ATTACHMENTS MAY INCREASE THE OVERALL TRANSPORT WIDTH AND HEIGHT OF THE IMPLEMENT.



TRANSPORT INFORMATION

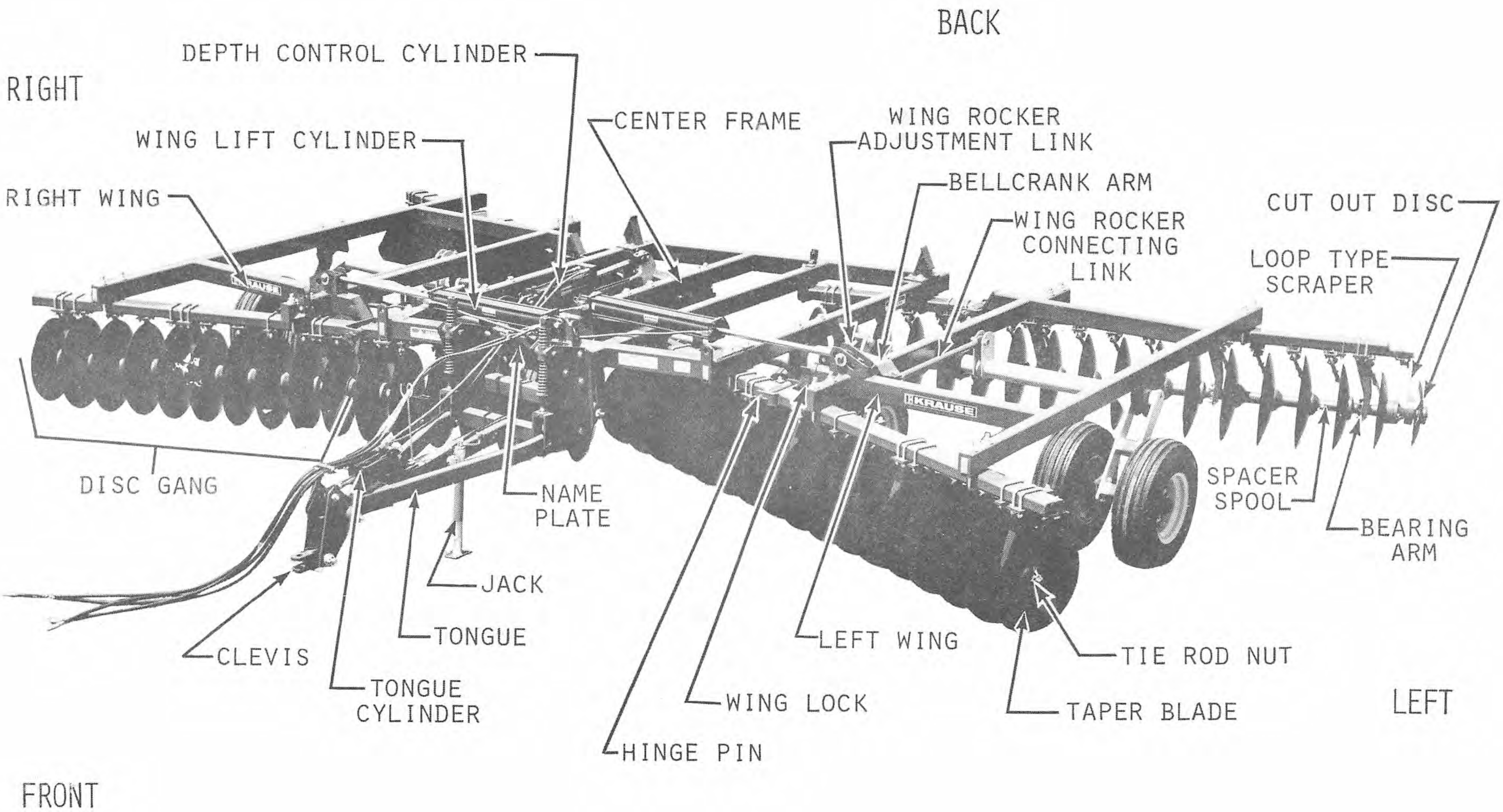
MODEL	A	B	C	D	E
4901	12'-0"	10'-0"	13'-2"	8'-10"	3'-0"
4904	10'-7"	10'-0"	13'-2"	10'-2"	3'-0"
4906	10'-7"	10'-0"	13'-2"	10'-10"	3'-0"
4907	9'-5"	10'-0"	13'-2"	12'-2"	3'-0"
4912	12'-0"	10'-0"	13'-2"	8'-10"	3'-0"
4915	10'-7"	10'-0"	13'-2"	10'-2"	3'-0"
4916	10'-7"	10'-0"	13'-2"	10'-10"	3'-0"
4918	9'-5"	10'-0"	13'-2"	12'-2"	3'-0"
4921	12'-0"	10'-0"	13'-2"	8'-10"	3'-0"
4924	10'-7"	10'-0"	13'-2"	10'-2"	3'-0"
4926	10'-7"	10'-0"	13'-2"	10'-10"	3'-0"
4927	9'-5"	10'-0"	13'-2"	12'-2"	3'-0"
4932	12'-0"	10'-0"	13'-2"	8'-10"	3'-0"
4935	10'-7"	10'-0"	13'-2"	10'-2"	3'-0"
4936	10'-7"	10'-0"	13'-2"	10'-10"	3'-0"
4938	9'-5"	10'-0"	13'-2"	12'-2"	3'-0"

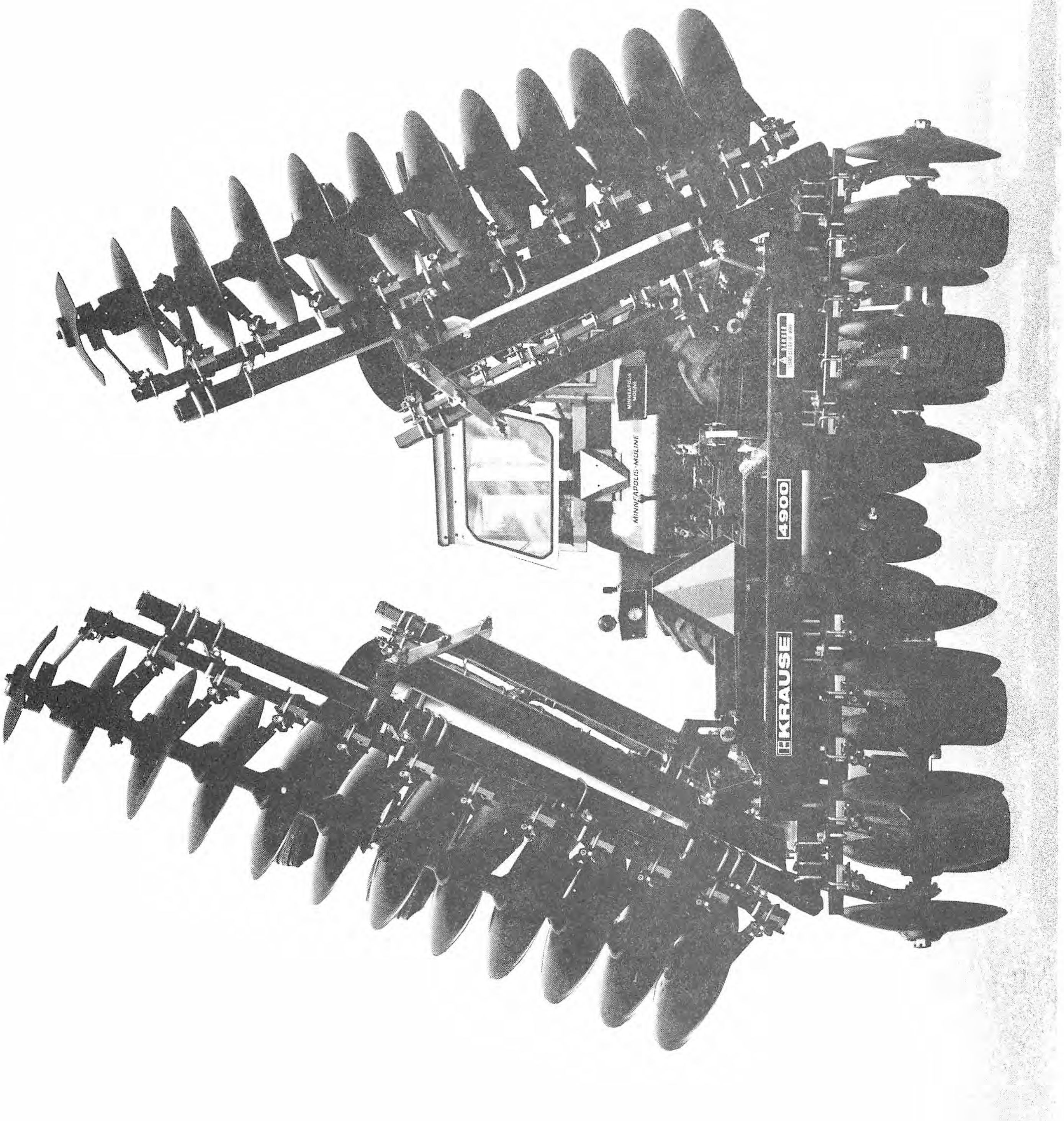
SPECIFICATIONS

RIGID MODELS

MODEL	TOTAL NO. OF DISC BLADES INCLUDING EXTENSIONS	SPACING	DISC BLADE SIZE	ASAE CUT WIDTH		CENTER SECTION CUT WIDTH	WING SECTION CUT WIDTH	WHEEL SPACING CENTER SECTION	WHEEL SPACING WING SECTION
				Ft. & In.	Metres				
4901	50	9-1/8"	22"	18' - 1"	5.50	9' - 4"	4' - 4"	62/103	155/196
4904	58	9-1/8"	22"	20' -11"	6.35	9' - 4"	5' - 9"	62/103	187/228
4906	62	9-1/8"	22"	22' - 5"	6.85	9' - 4"	6' - 6"	62/103	187/228
4907	70	9-1/8"	22"	25' - 2"	7.65	9' - 4"	7' -11"	62/103	222/263
4912	58	8"	22"	18' - 7"	5.65	9' - 4"	4' - 7"	62/103	155/196
4915	66	8"	22"	21' - 2"	6.45	9' - 4"	5' -11"	62/103	187/228
4916	70	8"	22"	22' - 6"	6.85	9' - 4"	6' - 7"	62/103	187/228
4918	78	8"	22"	24' -10"	7.55	9' - 4"	7' - 9"	62/103	222/263
ROCK FLEX MODELS									
4921	50	9-1/8"	22"	18' - 1"	5.50	9' - 4"	4' - 4"	62/103	155/196
4924	58	9-1/8"	22"	20' -11"	6.35	9' - 4"	5' - 9"	62/103	187/228
4926	62	9-1/8"	22"	22' - 5"	6.85	9' - 4"	6' - 6"	62/103	187/228
4927	70	9-1/8"	22"	25' - 2"	7.65	9' - 4"	7' -11"	62/103	222/263
4932	58	8"	22"	18' - 7"	5.65	9' - 4"	4' - 7"	62/103	155/196
4935	66	8"	22"	21' - 2"	6.45	9' - 4"	5' -11"	62/103	187/228
4936	70	8"	22"	22' - 6"	6.85	9' - 4"	6' - 7"	62/103	187/228
4938	78	8"	22"	24' -10"	7.55	9' - 4"	7' - 9"	62/103	222/263

	STANDARD TIRE SIZES		STANDARD CYLINDER SIZES	
	SINGLES	DUALS	DEPTH CONTROL	WING LIFT
ALL MODELS	11L X 15	9.5L X 15	4" X 16"	4" X 32"


BACK
DEPTH CONTROL CYLINDER
RIGHT
WING LIFT CYLINDER
CENTER FRAME
WING ROCKER ADJUSTMENT LINK
BELLCRANK ARM
RIGHT WING
CUT OUT DISC
WING ROCKER CONNECTING LINK
LOOP TYPE SCRAPER
DISC GANG
NAME PLATE
SPACER SPOOL
BEARING ARM
JACK
TONGUE
CLEVIS
LEFT WING
TIE ROD NUT
TONGUE CYLINDER
WING LOCK
TAPER BLADE
LEFT
HINGE PIN
FRONT

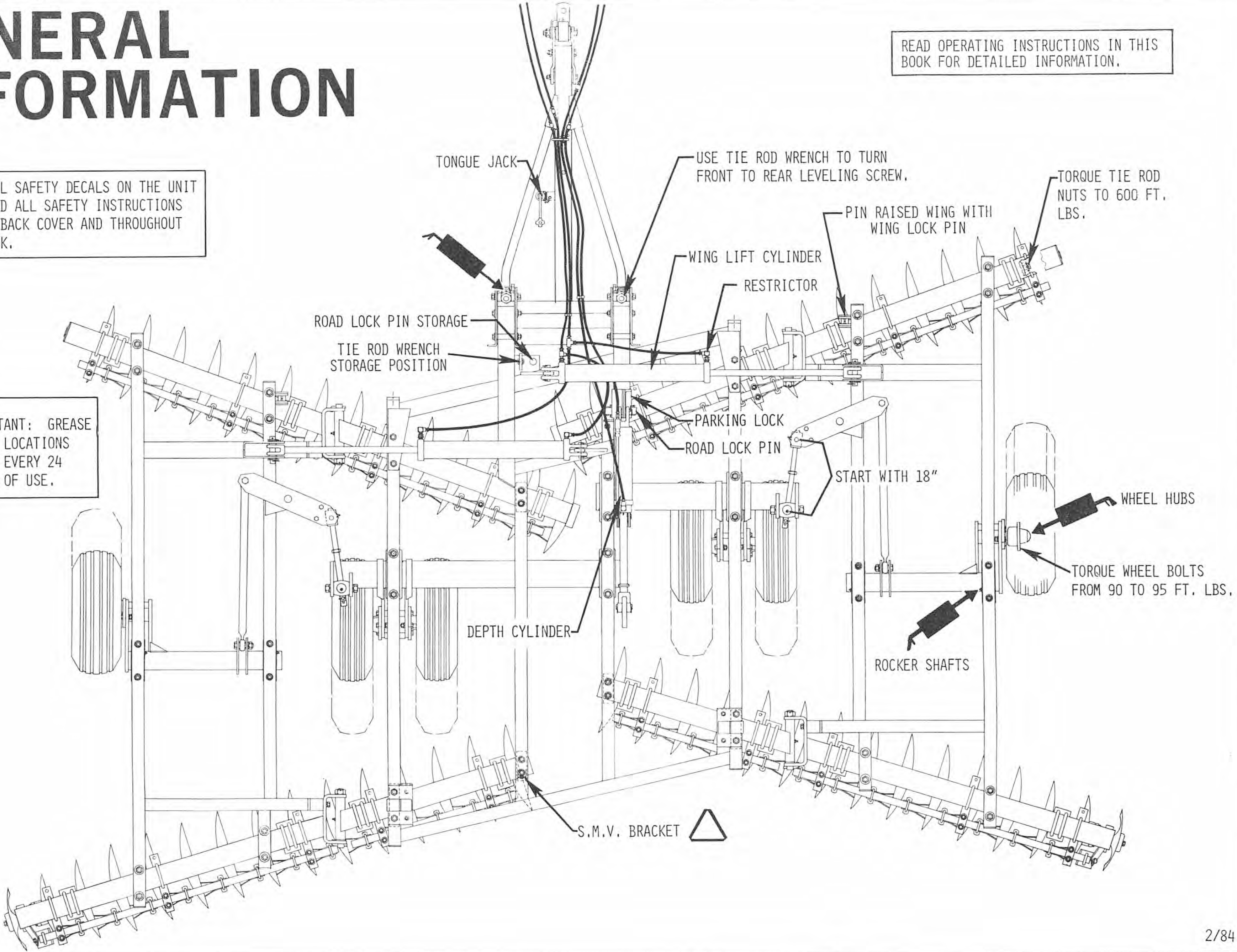

KRAUSE
4900
MINNEAPOLIS-MOLINE
MINNEAPOLIS-MOLINE

GENERAL INFORMATION

READ OPERATING INSTRUCTIONS IN THIS BOOK FOR DETAILED INFORMATION.

⚠ READ ALL SAFETY DECALS ON THE UNIT AND READ ALL SAFETY INSTRUCTIONS ON THE BACK COVER AND THROUGHOUT THE BOOK.

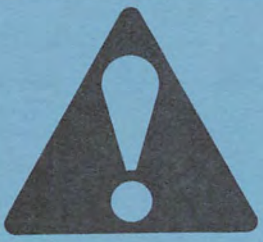
IMPORTANT: GREASE THESE LOCATIONS AFTER EVERY 24 HOURS OF USE.


TONGUE JACK
USE TIE ROD WRENCH TO TURN FRONT TO REAR LEVELING SCREW.
TORQUE TIE ROD NUTS TO 600 FT. LBS.
PIN RAISED WING WITH WING LOCK PIN
WING LIFT CYLINDER
RESTRICTOR
ROAD LOCK PIN STORAGE
TIE ROD WRENCH STORAGE POSITION
PARKING LOCK
ROAD LOCK PIN
START WITH 18"
WHEEL HUBS
TORQUE WHEEL BOLTS FROM 90 TO 95 FT. LBS.
DEPTH CYLINDER
ROCKER SHAFTS
S.M.V. BRACKET

2/84

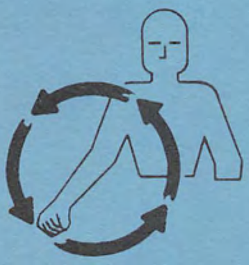
OPERATING
SECTION

SAFETY ALERT SYMBOL

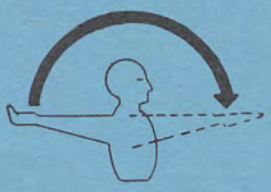


BE ALERT TO THE POSSIBILITY OF PERSONAL INJURY. THIS SYMBOL IDENTIFIES IMPORTANT SAFETY MESSAGES. CAREFULLY READ THE MESSAGE THAT FOLLOWS.

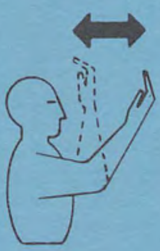
TEN MOST COMMON HAND SIGNALS USED IN THE FIELD



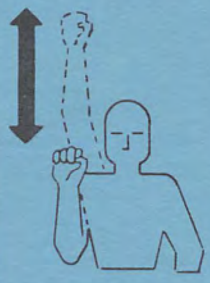
START
THE
ENGINE



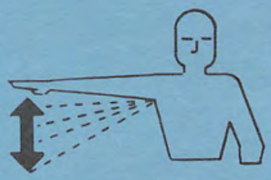
MOVE OUT
OR
TAKE OFF



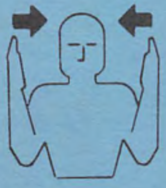
MOVE
TOWARD
ME



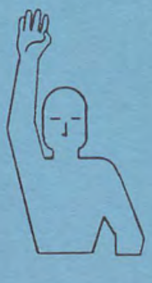
SPEED
IT UP



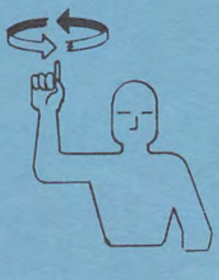
SLOW IT
DOWN



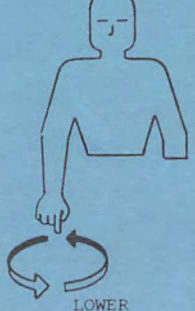
THIS FAR
TO GO



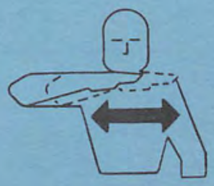
STOP



RAISE
THE
EQUIPMENT



LOWER
THE
EQUIPMENT



STOP
THE
ENGINE

SAFETY FIRST

WATCH FOR THIS SYMBOL AND CAREFULLY READ THE MESSAGES.

1. Read and understand this owner's manual before operating the machine.
2. Be sure safety decals and reflectors are clean and in place.
3. Do not climb or walk on disc frame, or tires.
4. Never position yourself under any portion of implement unless the transport locks are engaged or entire unit is lowered to the ground.
5. Stop engine and set parking brake before leaving operator's position to adjust, lubricate, clean or unclog the machine.
6. Do not stand between the implement and tractor unless tractor brakes are locked and engine is shut off.
7. Do not stand on or straddle a tongue when hitching.
8. Never operate unit until hydraulic cylinders and lines are full of oil and free of air. See operating instructions.
9. Use a slow-moving-vehicle (SMV) emblem when roading the implement.
10. Always use a safety chain of tensile strength equal to the gross weight of the implement and attachments when roading.
11. Check wheel bolts before and after the first half day of transporting.
12. Always use road locks to hold raised position.
13. Do not road an implement over 15 miles per hour on the best surface conditions. Reduce speed when going up or down hills and when approaching ditches or corners.
14. Check condition of hitch pins and bolts, tires and hubs, and safety chain before transporting.
15. Do not add excessive additional weight to the disc. Additional weight could cause frame or axle to fail resulting in loss of control of implement / tractor during transporting.
16. Serious injury can be inflicted by disc blades and disc gangs if not handled safely. Watch for unsafe conditions. Keep your co-worker's safety in mind.

OPERATING INSTRUCTIONS

READ ALL THE SAFETY DECALS ON THE HARROW AND REVIEW THE SAFETY FIRST SUGGESTED ON THE BACK COVER OF THE MANUAL TO REFRESH YOUR MEMORY. WATCH FOR THE SAFETY SYMBOL AND READ THE INFORMATION. THIS IS FOR YOUR OWN PROTECTION.

ABOUT YOUR TANDEM DISC

This tandem disc was designed for medium primary to finish work and can be pulled over a wide range of field speeds ranging from 3.5 to 6 M.P.H., with maximum working depth under normal conditions of 6.5 inches. Do not exceed 5 M.P.H. in rocky conditions.

Horsepower requirements will be about 6 HP per foot of cut in average soil conditions. See your Krause dealer about a "DISC HARROW SELECTION GUIDE" for additional information.

It is advised adding of attachments be limited to Krause original equipment options, or light duty tine or spike harrows that weigh no more than 25 pounds per foot of cut.

CAUTION: ADDING OF EXCESS ADDITIONAL WEIGHT COULD CAUSE FRAME OR AXLE FAILURES RESULTING IN LOSS OF CONTROL DURING TRANSPORT.

PREPARING THE HARROW FOR OPERATION

CAUTION: LOWER IMPLEMENT TO THE GROUND BEFORE MAKING THE FOLLOWING INSPECTIONS. WITH IMPLEMENT LOWERED, ENTER THE FRAMEWORK BY STEPPING OVER. DO NOT CRAWL UNDER FRAMEWORK. IF IMPLEMENT IS NOT LOWERED, ANY HYDRAULIC FAILURE COULD CAUSE THE UNIT TO DROP SUDDENLY, CAUSING PERSONAL INJURY.

1. Inspect for any loose bolts.
2. Check disc gangs for tight tie rod nuts and clinched cotter pins.
3. Look at the top of each bearing arm and check to see if it is flush with the bottom of the frames. See page A12 "DISC GANGS".
4. Check tire pressure. Inflate 11L X 15 tires to 32 P.S.I. Inflate 9.5L X 15 tires to 32 P.S.I.

CAUTION: FREQUENTLY CHECK TO SEE THAT THE WHEEL LUG BOLTS ARE TORQUED 90 TO 95 FT. LBS., PARTICULARLY DURING THE INITIAL TRANSPORTING AND OPERATION OF THE TILLAGE TOOL. THE BOLTS MAY WORK LOOSE, RESULTING IN THE LOSS OF A WHEEL AND SUBSEQUENT LOSS OF CONTROL OF THE TOOL AND / OR TRACTOR.

5. Make sure that all grease zerk locations have been sufficiently greased. Grease zerks will be found on the rocker shaft bearings, regreaseable disc gang bearings, adjustment screws, and wheel hubs. USE EXTREME CAUTION WHEN WORKING AROUND DISC BLADES.

PREPARING THE TRACTOR

Read your tractor owner's manual. It will describe safe methods of operation. Make sure your tractor has proper added ballast, and that its hydraulic system is full of oil and working properly. Check tractor brakes and warning lights, make sure they are in working order.

HYDRAULIC SYSTEM

Inspect the hydraulic system for tell-tale leaks and loose fittings. Tighten if needed. If you are plumbing the implement with JIC or O-Ring fittings it is not necessary to use a tape type or liquid sealer. MAKE SURE THE RESTRICTORS (colored dichromate yellow) ARE IN THE ROD END PORTS OF THE WING LIFT CYLINDERS. If not previously filled, the hydraulic system will require approximately 19 Quarts / 18 Liters of your tractor manufacturer's recommended oil. Read the Service Section "HYDRAULICS" on page 014 before filling the system.

CAUTION: AIR IN HYDRAULIC SYSTEM WILL ALLOW DISC HARROW OR WINGS TO DROP SUDDENLY.

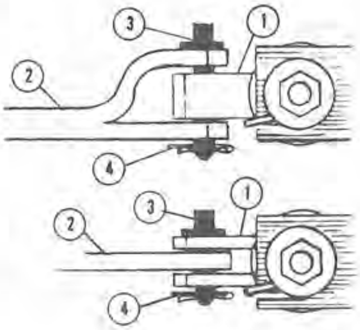
DO NOT OPERATE THE WING HYDRAULICS UNTIL YOU HAVE READ THE WING LIFT AND LOCK OPERATIONS UNDER "TRANSPORTING".

HITCHING AND UNHITCHING

CAUTION: DO NOT ALLOW ANY PERSON TO STAND BETWEEN THE TRACTOR AND HARROW WHILE BACKING INTO POSITION. SUDDEN LOSS OF CONTROL COULD CAUSE SERIOUS INJURY OR DEATH TO A PERSON CAUGHT BETWEEN THE TRACTOR AND IMPLEMENT. TELL YOUR HELPER TO WAIT UNTIL YOU GIVE HIM THE SIGNAL THAT THE TRACTOR IS IN PARK OR NEUTRAL AND THE HAND BRAKE IS SET AND THE ENGINE IS SHUT OFF.

HITCHING TO THE TRACTOR

1. The disc harrow must be in a raised position and transport road lock in place before hitching to the tractor. The clevis spring will hold the clevis forward.
2. Unpin the tractor drawbar so it can be moved from side to side.
3. Back the tractor to the disc harrow.



4. Attach clevis① to tractor drawbar② with clevis pin③ that fits the hole size in the tractor drawbar. Make sure that the pin is locked④ or bolted in place to prevent loss.
5. Place tongue jack in storage position.
6. Connect hydraulic hoses to tractor.

UNHITCHING FROM THE TRACTOR

If the harrow is not to be used for the remainder of the day, select a good parking place that will permit the lowering of the wings. The harrow should be parked in the storage position with the wings down and the road lock pin in place. If the harrow is to remain parked for storage over a long period of time, be sure to read the storage recommendations on page 010.

1. To unhitch the harrow from the tractor, place the tractor in park or neutral and set the hand brake. If you are not parking on level ground, the harrow will require the tires to be blocked.
2. Have all persons stand clear and lower the wings.
3. Turn off the tractor power and relieve any hydraulic pressure that might be in the system by moving the tractor control lever(s) back and forth.
4. Lower the tongue jack, and raise the tongue height until the clevis pin can be removed.
5. If rear attachments have been added and the disc is tail heavy, move the pin from the road lock location to the parking lock location. Relieve the hydraulic pressure until the rocker link is against the pin. This will transfer weight to the tongue. If the disc is still tail heavy, a rear jack stand should be used. (Part # 4901-85-0)
6. Disconnect the hydraulic hoses, and the tractor may be removed.

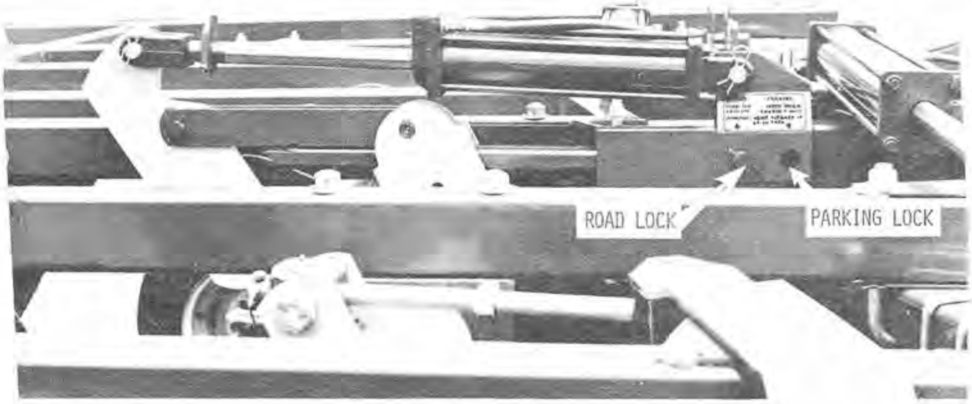
⚠ **CAUTION:** DO NOT STAND ON OR STRADDLE THE TONGUE WHEN UNHITCHING. IF ATTACHMENTS HAVE BEEN ADDED TO THE REAR OF THE IMPLEMENT, IT MAY AFFECT THE BALANCE OF THE IMPLEMENT, CAUSING THE TONGUE TO RAISE UP SUDDENLY WHEN UNHITCHING.

TRANSPORTING

WARNING: ALWAYS USE TRANSPORT LOCK AND WING LOCKS WHEN TRANSPORTING IMPLEMENTS TO PREVENT UNIT FROM FALLING DUE TO HYDRAULIC FAILURE OR ACCIDENTAL ACTIVATION OF THE OPERATOR'S CONTROL. LOWERING OF THE TOOL DURING TRANSPORT COULD RESULT IN LOSS OF CONTROL OF IMPLEMENT AND / OR TRACTOR.

ROAD LOCK

The road lock pin is located through the right center frame member just in front of the rocker connecting link. To remove the pin, extend cylinder to maximum stroke and remove the pin. The pin may be stored in a hole next to the tie rod wrench on the front of the center frame.

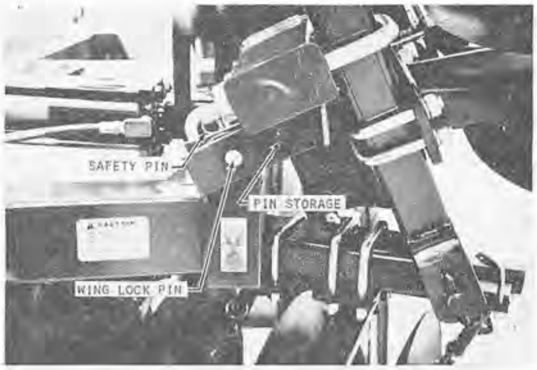


IMPORTANT: NEVER RETRACT DEPTH CONTROL CYLINDER OR EXTEND WING LIFT CYLINDER UNTIL LOCK PINS HAVE BEEN DISENGAGED, OR DAMAGE MAY OCCUR TO THE FRAME, ROCKER SHAFT, OR HYDRAULIC CYLINDER.

RAISING THE WINGS

The harrow should be in the raised position with road lock pin engaged. If the system is full of oil, you are ready to raise the wings. The wings will be secured in the raised position with the locking pins when the wing clevis lock straps rests over the center frame lock strap. Holes in the wing lock straps are provided for lock pin storage.

WARNING: ALWAYS STAND CLEAR OF WINGS WHEN THEY ARE IN THE RAISED POSITION. A HYDRAULIC FAILURE OR ACTIVATION OF HYDRAULIC CONTROLS BY SOMEONE COULD RESULT IN SERIOUS INJURY TO ANYONE UNDER THE WINGS.

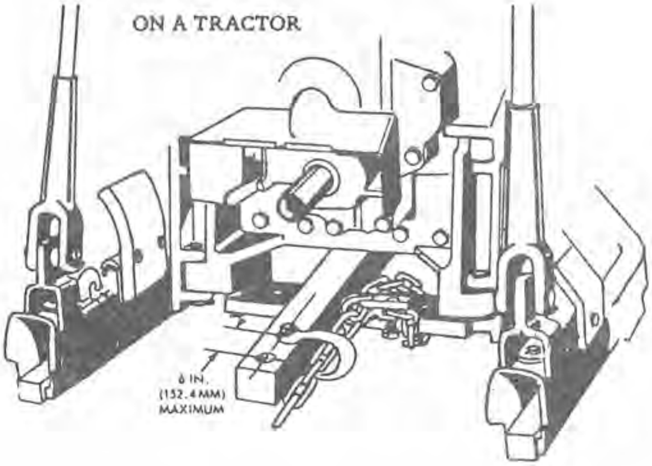


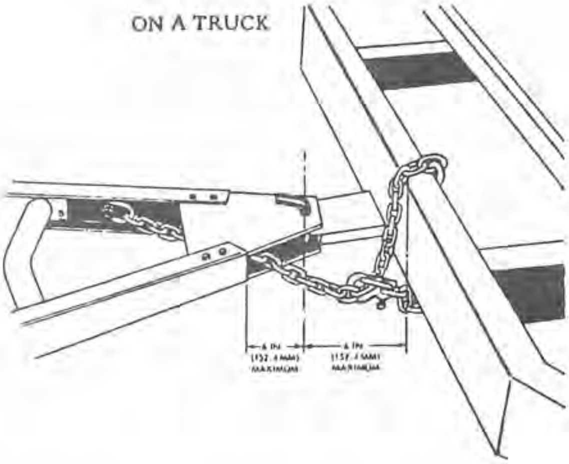
LOWERING THE WINGS

To lower the wings, be sure the cylinders are retracted to the minimum stroke, then remove the wing lock pins and place in storage hole provided. Be sure you unlock both wings then lower the wings with all persons standing at a safe distance.

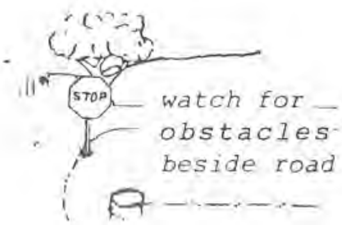
TRANSPORT SAFETY

⚠ WARNING: ALWAYS USE A SAFETY CHAIN WITH TENSILE STRENGTH EQUAL TO THE GROSS WEIGHT OF THE UNIT, PLUS ANY ATTACHMENTS WHEN TRANSPORTING.


ON A TRACTOR


ON A TRUCK

Use the ASAE Slow-Moving-Vehicle (SMV) emblem. The SMV is to be mounted point up, in a plane perpendicular to the direction of travel ± 10 degrees. It shall be placed centrally at the rear of the vehicle, unobscured, and 2' to 6' (0.61 to 1.8m) above the ground, measured from the lower edge of the emblem. The SMV emblem should be wiped clean before entering the road or highways. A bracket has been provided.



Comply with state and local laws pertaining to lighting and road widths. Transport during daylight hours only. Watch your clearance. Be aware of obstacles on the side of the road that might be caught by the implement when passing by. Pull over to the side of the road to permit safe clearance for on-coming vehicles. Keep the red and yellow reflectors clean and visible. Replace the reflectors if they become faded or damaged. Watch for narrow bridges and re-route if necessary. Watch for pedestrians on the side of the roadway that need to be warned of your presence.

⚠ CAUTION: ALWAYS CHECK CONDITIONS OF TRANSPORT LOCK PINS, TIRES, WHEELS, HUBS, SAFETY CHAIN, HITCH BOLTS AND CLEVIS PIN BEFORE TRANSPORTING THE TANDEM DISC.

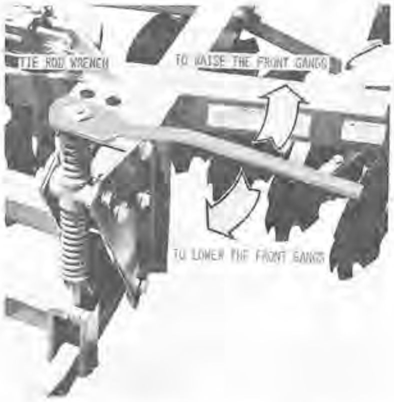
Check specification pages and be aware of the transport height and width of your model of tandem disc.

CAUTION: DO NOT EXCEED 15 M.P.H. IN TRANSPORT ON BEST SURFACE. EXCEEDING THIS SPEED CAN RESULT IN FAILURE IN WHEEL HUBS OR SPINDLES AND LOSS OF CONTROL OF IMPLEMENT AND / OR TRACTOR. DO NOT TRANSPORT WITH VEHICLE WEIGHING LESS THAN THE GROSS WEIGHT OF YOUR IMPLEMENT AND ATTACHMENTS. PIN TRACTOR DRAWBAR TO PREVENT SIDE SWAY DURING TRANSPORT.

FIELD ADJUSTMENTS

A level harrow in the working position will give the most uniform penetration and field leveling possible. Leveling the harrow for the first time should be performed on as level of surface as possible. Hitch the tractor to the clevis and extend the tongue leveling cylinder to the maximum stroke. Lower the wings and extend the wing lift cylinder to the maximum stroke.

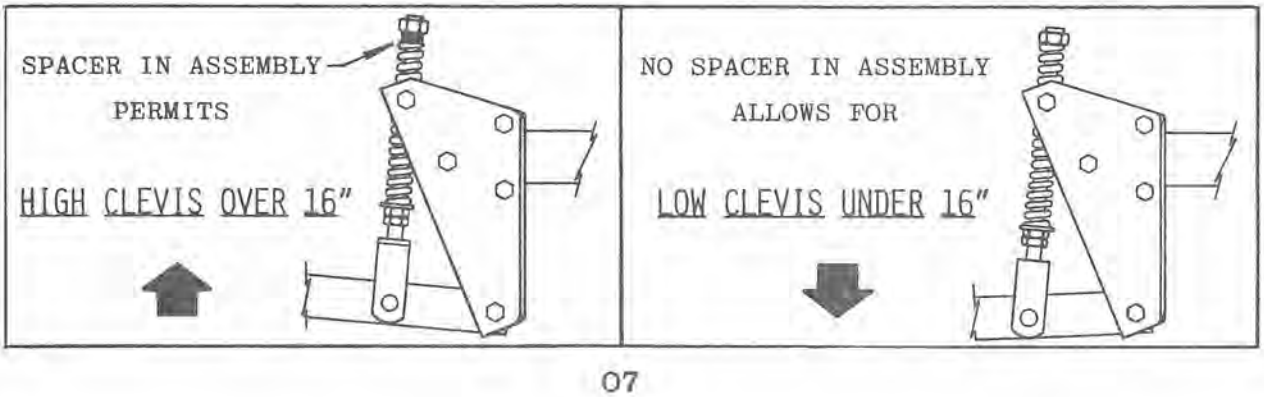
FRONT TO REAR LEVELING



With unit out of the ground and tongue cylinder fully extended, turn both tongue leveling screws until the frame is level front to rear. NOTE: Turn clockwise to lower the front and counter-clockwise to raise the front. The unit should retain a level condition when lowered to the plowing position. The angle of the front frame members can give an illusion that the front gangs are running deeper than the back. When checking the front to rear leveling in the field, always stand well away from the unit and view the frames from frame height.

CONVERTING TO LOW DRAWBAR POSITION

The tongue has been assembled for high drawbar tractors. To convert to a low drawbar tongue position, lower the harrow to the ground. Block up the tongue to relieve spring tension on the adjustment screws. Remove the two Adjustment Screws. Disassemble each adjustment screw and reassemble, leaving the spacers out of the assemblies, and adjusting the Jam Nuts to allow 15-1/2" between the flat washer and base of the Spacer.

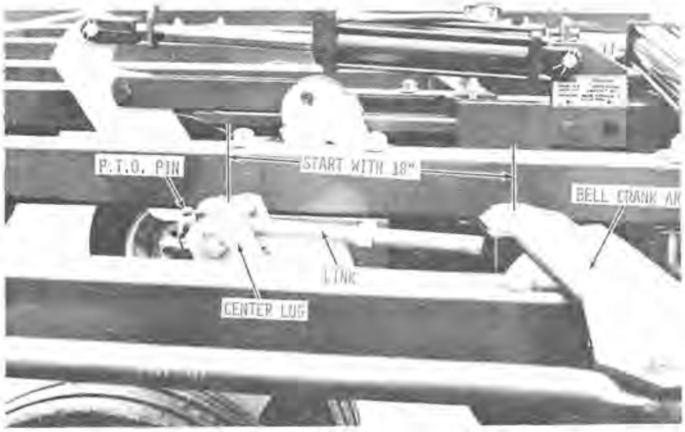


SIDE TO SIDE LEVELING

These harrows are in three sections from side-to-side and will flex for even penetration on irregular fields, if adjusted properly. After the front-to-rear leveling has been established, check the wing frames to see if they are level with the center frame from side-to-side.

Wheel hubs have off-center spindles for additional adjustments. MAKE SURE all hubs are in the correct position before attempting to level the unit from side to side. See page A5 for "CENTER HUBS" , and page A22 for "WING HUBS".

If the wings are not level with the center frame, disengage the road lock and lower the disc gangs to the ground, relieving the weight of the unit from the wheels. To level the wings, remove the P.T.O. Lock Pin and turn the adjusting link. To RAISE the wing, shorten the distance between the two cast trunnions. To LOWER the wings, extend the distance between the two cast trunnions. The average setting is approximately 18" from center-to-center of the cast trunnions.



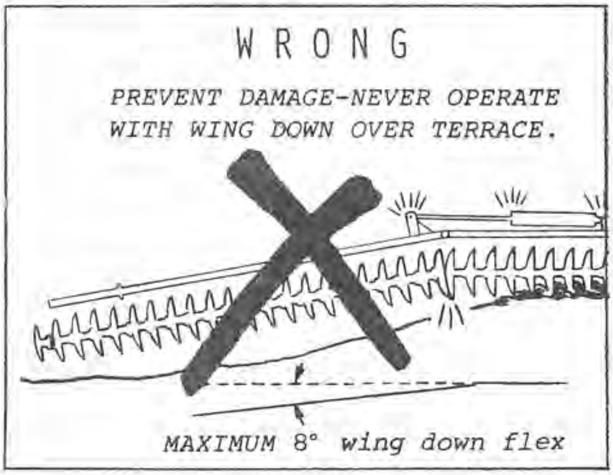
WARNING: DO NOT EXTEND PAST 19" CENTER-TO-CENTER. IF ADDITIONAL ADJUSTMENT IS NEEDED, RE-ADJUST POSITIONING OF OFF-CENTER SPINDLE LOCATIONS ON ROCKER SHAFT WHEEL ARMS.

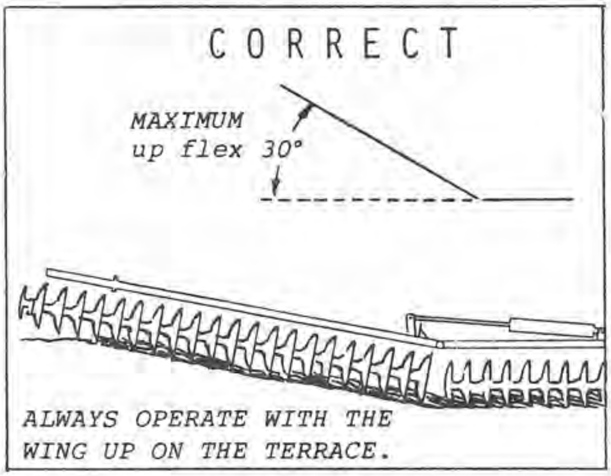
The wings may not be exactly level with the center section frame when the harrow is in the raised road locked position.

FLEXIBILITY

ALWAYS WORK WITH WINGS DOWN: Major damage may occur to disc blades and bearing arms if used with wings up. For maximum flexibility, make sure the wing hydraulic cylinders are fully extended after the wing is down.

When working terraced ground, place the wing up on the terrace, not down over the terrace, as the wings are limited in their downward movement, but not in the upward movement.

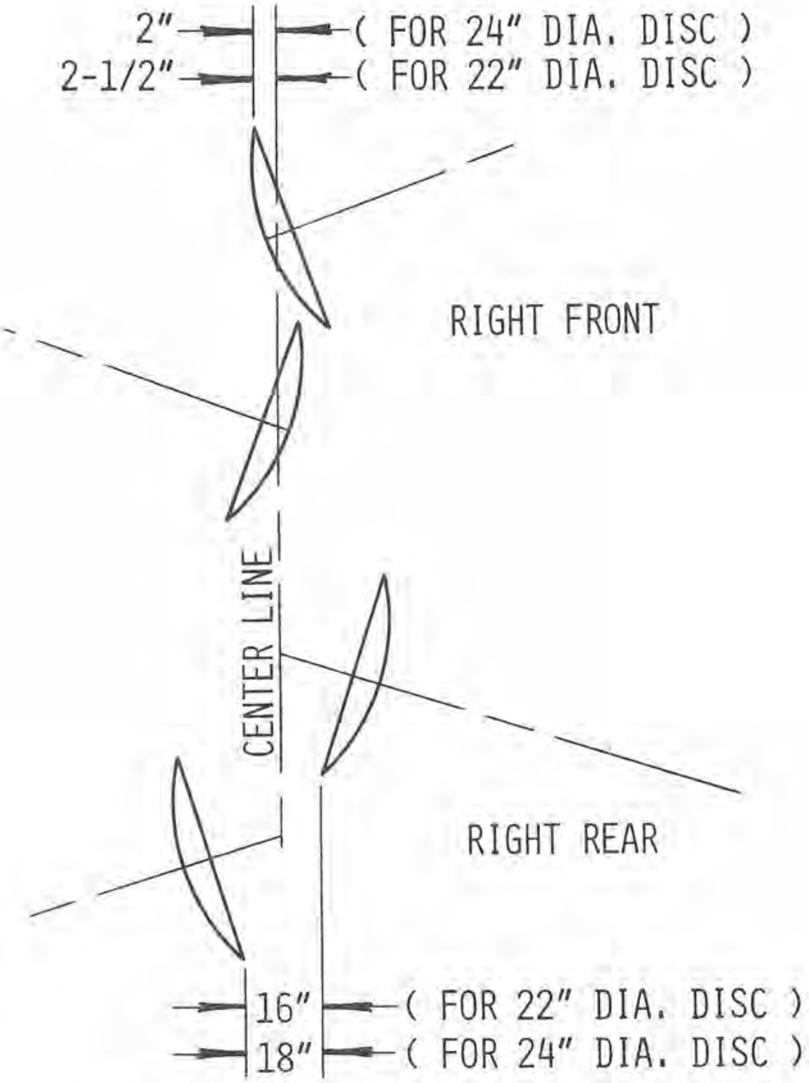

WRONG
PREVENT DAMAGE-NEVER OPERATE WITH WING DOWN OVER TERRACE.
MAXIMUM 8° wing down flex


CORRECT
MAXIMUM up flex 30°
ALWAYS OPERATE WITH THE WING UP ON THE TERRACE.

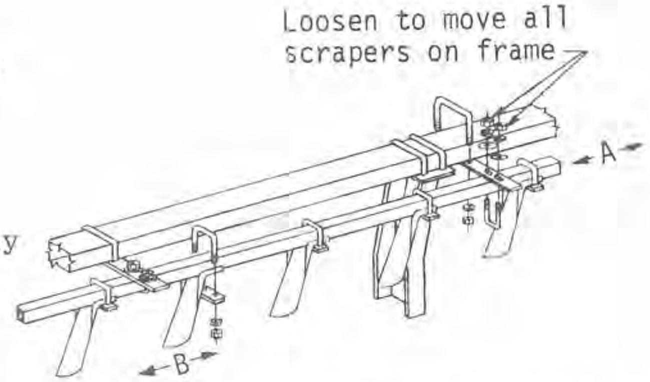
DISC GANG SPACING

The FRONT gangs are overlapping in the center and should be adjusted as shown at the right.

BACK gang spacing should be 16" to 18" apart. Field conditions, blade size, and speed will affect this setting. Move gangs out to eliminate a ridge or move in to eliminate a furrow.


2" (FOR 24" DIA. DISC)
2-1/2" (FOR 22" DIA. DISC)
RIGHT FRONT
CENTER LINE
RIGHT REAR
16" (FOR 22" DIA. DISC)
18" (FOR 24" DIA. DISC)

RIGID SCRAPER ADJUSTMENTS



A. Scrapers can be adjusted by moving the entire assembly from side to side at the bracket location.

B. Also, each scraper blade can be adjusted individually along its mounting frame.

When scrapers are required, adjust blades so the scraping edge of each scraper blade is flush against the disc blade, but not tight enough to prevent the gang from revolving freely. When scrapers are not required, adjust the scraper frame to move scraper blades away from disc blades. Under most conditions, scrapers should be positioned approximately 2" in from the cutting edge and approximately 1/8" from the surface of the disc blade.

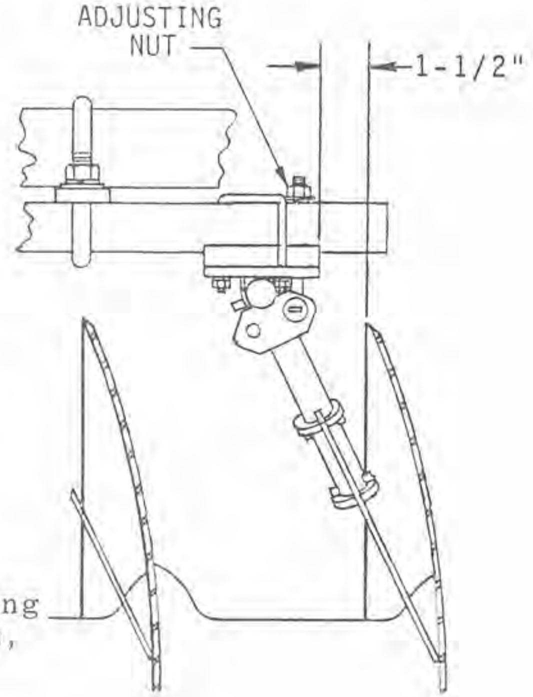
Each field requires some individual scraper adjustment. Moving scrapers one way or the other will help solve your individual scraper problems. The removal of the scraper blade at a bearing arm location may be necessary in some conditions. Frequent examination will prevent damage to scraper assemblies and spacer spools.

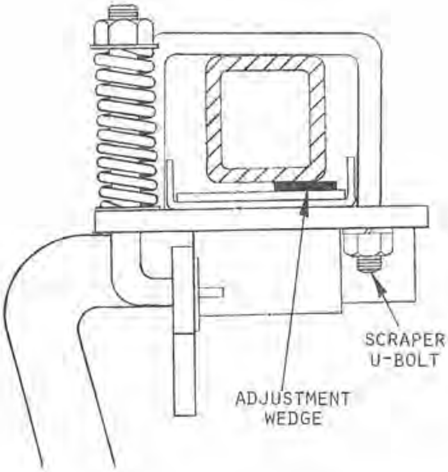
Some wet or heavy trash conditions may require use of chain trash guard option, Part Number 1582-146-0.

SPRING LOADED SCRAPER ADJUSTMENTS

Spring scrapers can be adjusted towards or away from the disc blades by moving the entire assembly or moving individual scrapers, similar to the rigid scraper adjustments. Spring scrapers are in correct position when the scraper mounting plate is 1-1/2" from the edge of the disc blade as shown in the illustration below. In most conditions the edge of the scraper blade should be approximately 3/4" in from the outside cutting edge of the disc blade. Use the following procedure to adjust the scraper blade force against the disc blade.

1. Loosen the adjusting nut until scraper blade starts to move away from the disc blade.
2. Retighten the adjusting nut until the scraping edge of the blade is just contacting the disc blade. (At this point there should not be any force against the disc blade.)
3. Tighten the adjusting nut one complete revolution for each 5lbs. of scraper force desired against the disc. The initial setting should be approximately 15lbs. or three complete revolutions.
4. In moderate conditions, a smaller scraper force may be desired and in tough conditions a larger force may be required. The scraper setting should fall between a 10lb. minimum, and a 30lb. maximum setting.

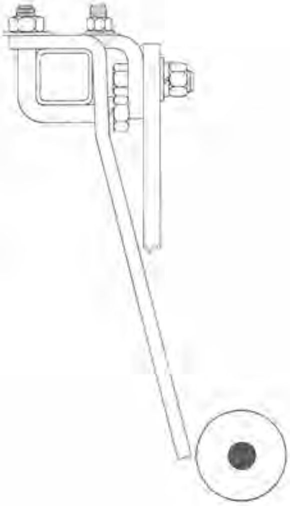




There is an adjustment wedge used to mount the spring scraper next to the extension trash bar loop on the rear outer disc blades. This scraper can be tilted towards the spool by tightening and loosening the nuts on the scraper U-Bolt. This scraper should be adjusted so that the scraper does not hang over the outside of the taper disc blade.

TRASH BARS (MODELS 4921 THROUGH 4938 ONLY)

Trash bars should be set to run about 1/8" from the spacer spool. This adjustment is made by changing the torque on the L-Bolts which attach the bars to their frame. Tightening the lower nut will move the bar away from the spool. Tightening the upper nut will move the bar into the spool.



FIELD OPERATION

WORKING DEPTH

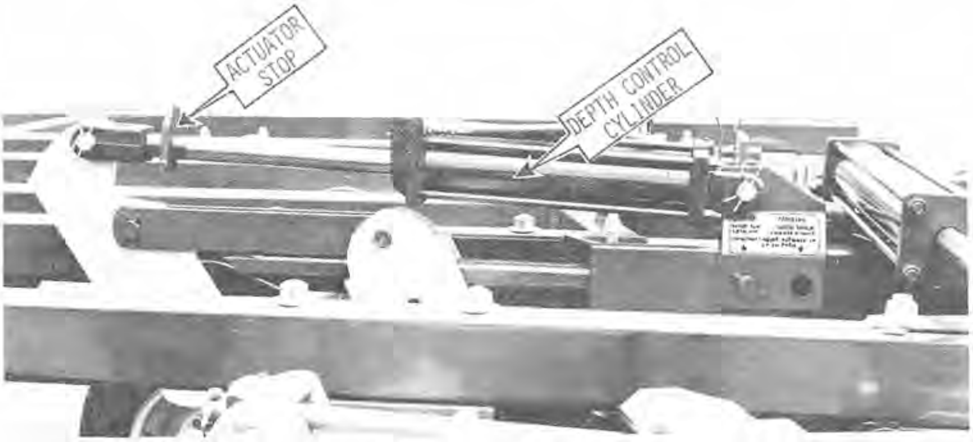
The depth of your disc harrow is controlled by the remote cylinder control lever(s) of the tractor. The wheels will act as guage wheels to regulate working depth. Your disc harrow will not work uniformly, unless some weight of the unit is carried on the wheels. Speed will affect working depth. Do not expect maximum depth at high field speeds. Other factors affecting working depth are moisture conditions, amounts of trash on surface, polish of disc blades, blade spacing and blade sharpness.

MODELS 4921 THROUGH 4938 --- Remember to reduce speeds when working in extremely rocky conditions. Field speeds should not exceed 5 M.P.H. You will get better penetration and less blade breakage at lower speeds.

CONTROLLED DEPTH

After determining the correct depth, position your actuator stop on your hydraulic cylinder rod so the wheels will lower the frames to the same position each time. Make sure you align the actuator stop with the poppet. DO NOT OVER-TIGHTEN BOLT ON ACTUATOR STOP.

WARNING: LOWER IMPLEMENT TO THE GROUND BEFORE ENTERING THE FRAME TO MAKE ADJUSTMENTS.



TURNING IN THE FIELD

Short turns at working depth may result in driving the front blade deeper in the ground, causing damage to disc blades or bearings. If short turns must be executed, raise the unit out of the ground and complete the turn before engaging the tool for further tilling.

IMPORTANT: 4-WHEEL DRIVE TRACTORS CAUSE SEVERE SIDE STRAIN ON TONGUE AND CLEVIS UNLESS THE DRAWBAR IS FREE TO SWING. ALWAYS ALLOW DRAWBAR TO SWING DURING FIELD OPERATION. DRAWBAR MUST BE PINNED FOR TRANSPORTING.

GENERAL INFORMATION

Different soil types require different blade sizes, thickness and spacing.

As a general rule, heavy wet soils require wider spacing. For a finer seed bed preparation narrow spacing should be used.

Seven gauge blades should be used in hard soils and "DUB" edge blades are required in rocky soils.

Blade diameter is an individual preference.

CAUTION: NEVER ADD WEIGHT TO THE IMPLEMENT TO GAIN ADDED PENETRATION. OVERLOADING OF TIRES AND AXLES MAY CAUSE DAMAGE TO THE DISC HARROW.

STORAGE SUGGESTIONS

Wings should not be stored in raised position. Make sure transport road lock pins are in place. Coat disc blades and hydraulic cylinder shafts with rust preventative during extended periods of storage. Cylinder rod ends may be unpinned and the cylinders retracted to protect the polished surface of the cylinder rods.

For added safety lower unit to the ground during long periods of storage. Inspect the unit for worn or damaged parts and replace as needed to avoid delays the next season.

SERVICING

GENERAL MAINTENANCE

ALL NUTS SHOULD BE CHECKED AND TIGHTENED AFTER THE FIRST DAY OF OPERATION AND PERIODICALLY THEREAFTER. CHECK DISC GANG TIE RODS FREQUENTLY AND KEEP TIGHT AT ALL TIMES. TORQUE TIE RODS TO 600 FT. LBS. TORQUE ALL WHEEL BOLTS FROM 90 TO 95 FOOT POUNDS.

The Krause Disc is a ruggedly designed implement which will perform efficiently if properly adjusted and maintained. Keep blades sharp.

LUBRICATION

Regreaseable gang bearings should be greased after each 48 hours of use under normal conditions, every 24 hours of use in extreme conditions, and after long periods of storage. Rocker shaft bearing clamps, wing leveling screw rod ends and tongue adjustment screws should be lubricated with multi-purpose type grease after each 24 hours of use.

⚠ **CAUTION:** FOR YOUR SAFETY LOWER WINGS AND IMPLEMENT TO THE GROUND AND ENTER FRAMEWORK BY STEPPING OVER. WHEN LUBRICATING OR ADJUSTING YOUR DISC HARROW, WATCH FOR OBSTRUCTIONS AND PROTRUSIONS.

WHEEL BEARINGS

Grease wheel bearings every 24 hours of use. Check for excessive end play each time bearings are greased. Once a year, clean and repack wheel bearings. Replace seals each time bearings are removed. Replace any worn or damaged parts. Repack bearings with high-quality wheel bearing grease. After repacking, replace hub with seal and rear bearing already assembled. Use light oil on seal surface and use extreme care when pushing seal over the spindle. Install front bearing, flat washer, and slotted nut. Tighten nut while turning hub until there is resistance to rotation. Then back off nut 1 to 2 notches until hub turns freely without end play. Install new cotter pin and hub cap.

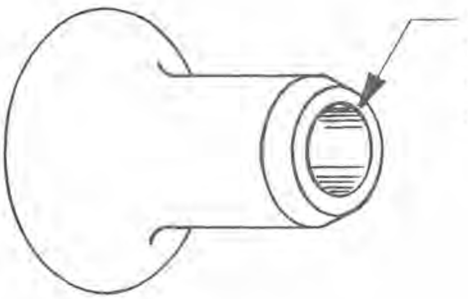
HYDRAULICS

If the implement hydraulic system has never been used, stored over a period of time or disassembled for any reason, unpin the rod ends of the cylinders and support the cylinders so the rod ends will clear frame members or lugs when fully extended. Back the tractor to the front of the harrow and connect the hydraulic hoses to the tractor. Check the tractor hydraulic reservoir and make sure it is full of the manufacturer's recommended oil. If you are sure the implement hydraulic hose connections are tight, begin filling the system by extending and retracting the cylinders. Hold the control lever open and pause at the end of each stroke of the cylinders to bleed the air from the system. Continue the cycles until the cylinders respond with immediate solid actuation. When you are sure the systems are free of air, pin the rod ends of the cylinders to the implement cylinder lugs.

⚠ **WARNING:** IF INJURED BY ESCAPING HYDRAULIC FLUID, SEE A DOCTOR AT ONCE. SERIOUS INFECTION OR REACTION CAN DEVELOP IF PROPER TREATMENT IS NOT ADMINISTERED IMMEDIATELY. ESCAPING FLUID FROM A SMALL HOLE CAN BE ALMOST INVISIBLE. USE CARDBOARD OR WOOD TO SEARCH FOR SUSPECTED LEAKS. DO NOT USE YOUR HANDS.

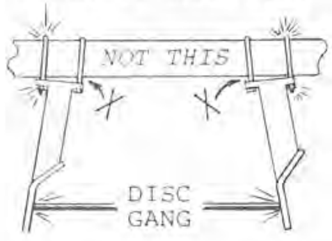
DISC GANGS

Refer to Assembly Section of this book when replacing disc blades, bearings or spools. Use the same procedure as described when setting up a new unit. Leave flangette bolts one turn loose until bearing arms are in place on the frame. Tighten tie rod to 600 Ft. Lbs. Tighten one bearing arm to the frame then tighten its flangette bolts. Make sure the other bearing arm top plate is parallel with the bottom of frame before tightening its U-Bolts. Tighten other flangette bolts. See page A12 for further details.



MAKE SURE FACE OF 1/2 SPOOLS ARE SQUARE BEFORE REASSEMBLY.

A BEARING IS A PRECISION PART TREAT IT CAREFULLY



BE SURE THE BEARING ARM FITS FLAT AGAINST THE GANG BEAM BEFORE TIGHTENING THE U-BOLTS.

⚠ DANGER: DUE TO THEIR SHARPNESS AND WEIGHT, SERIOUS INJURY CAN BE INFLICTED BY DISC BLADES AND DISC GANGS IF NOT HANDLED SAFELY. WATCH FOR UNSAFE CONDITIONS. KEEP YOUR CO-WORKERS SAFETY IN MIND. SHOULD PERSONAL INJURY OCCUR, HAVE MEDICAL TREATMENT ADMINISTERED IMMEDIATELY.

REPAIR PARTS

Refer to the Assembly Section of this book when repairing or replacing parts, and follow the same procedure as used when assembling a new unit. Reverse this procedure for disassembly. The Parts Section of this book will show a breakdown of assemblies, location of parts, and part numbers.

It is recommended that KRAUSE replacement parts be used.

KRAUSE PARTS WERE DEVELOPED AND TESTED FOR THESE HARROWS.

⚠ CAUTION: IF REPLACING HYDRAULIC HOSE, USE ONLY HOSE THAT MEETS OR EXCEEDS 2,500 PSI WORKING PRESSURE.

IMPORTANT: REPAIR OF HYDRAULIC CYLINDER SHOULD BE MADE BY AN AUTHORIZED KRAUSE DEALER.

POSSIBLE REMEDIES FOR FIELD PROBLEMS

PROBLEM	POSSIBLE CAUSES	POSSIBLE REMEDY
Leaving Center Ridge	Excessive Speed	Reduce Speed
	Rear Gangs Cutting Too Deep	Shorten Length Of Tongue Adjustment Screws
		Reduce Tension On Leveling Screw Springs
	Rear Discs Are Set Too Close Together	Readjust Distance Between Inside Disc Blades. (16" Average Setting on 22" Disc, 18" Average Setting On 24" Disc)
		Reduce The Size Of The Inside Rear Blades
Leaving Center Furrow	Discing Too Slowly	Increase Speed, Not To Exceed 6 M.P.H. ---- 5 M.P.H. On Rock Models
	Rear Gang Not Cutting Deep Enough	Lengthen Tongue Adjustment Screws
		Increase Tension On Adjustment Screw Springs
	Rear Blades Are Too Far Apart	Readjust Distance Between Disc Blades (Average Setting 16" To 18")
Leaving Untilled Center Strip	Discing Too Shallow	Increase Depth
	Front Center Gangs Too Far Apart	Move Front Center Gangs In

PROBLEM	POSSIBLE CAUSES	POSSIBLE REMEDY
Leaving Ridge On Outside	Front Running Too Deep	Adjust Leveling Screws On Tongue
	Not Enough Overlap	Move Tractor Toward Plowed Ground
	Incorrect Size Of Blade On Extension Disc	Increase Size Of Extension Disc Blades
	Wing Section Running Too Deep	Adjust Wing Rocker Shaft Leveling Screw
	Excessive Speed	Reduce Speed
Leaving Furrow On Outside	Rear Runnion Too Deep	Readjust Tongue Leveling Screws
	Incorrect Size Of Blade On Extension Disc	Decrease Size Of Extension Disc Blades
Center Section Not Level From Side To Side	Incorrect Air Pressure In Tires	Inflate 11L X 15 6-Ply Tires to 32 P.S.I. --- 9.5L X 15 to 32 P.S.I.
	Incorrect Assembly Of Wheel Hubs	Center Hubs Are Offset On Their Mounting Plates Make Sure All Center Hubs Are Set Alike
Wing Sections Not Level From Side To Side	Rocker Shaft Adjustment Screw Setting	Lengthen Screw To Lower Wings
		Shorten Screw To Raise Wings
Wing Sections Will Not Stay Level From Side To Side	Rocker Shaft Adjustment Screw Moving	Readjust Screw. Lock With P.T.O. Lock Pin

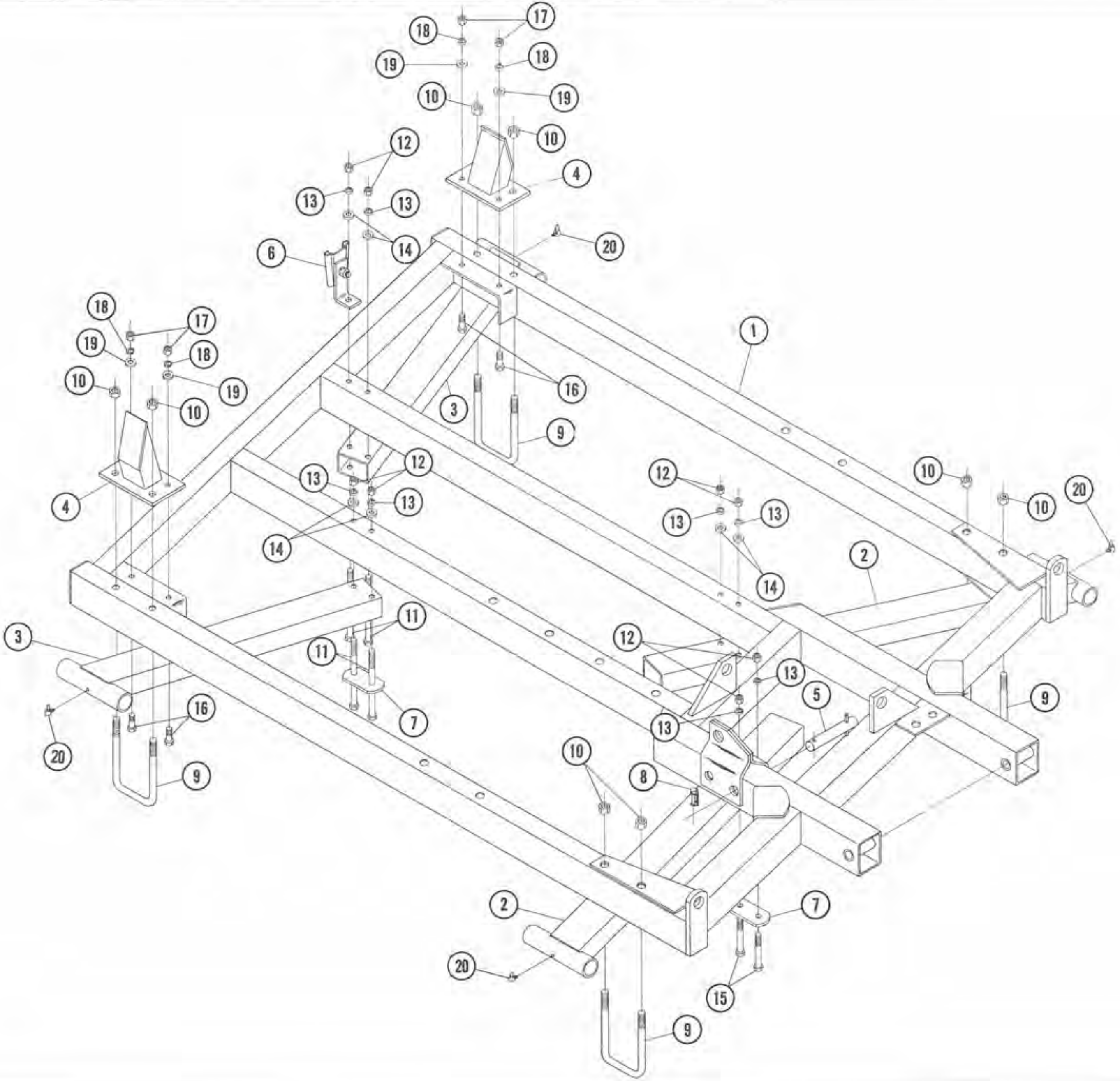
PROBLEM	POSSIBLE CAUSES	POSSIBLE REMEDY
Disc Not Level From Front To Rear During Field Operation	Tongue Adjustment Screw Settings	Lengthen Screw To Raise Front, Shorten Screw To Lower Front
Disc Not Level During Transport	Adjustment Of Leveling Screw Springs	Adjust Tension On Leveling Screw Springs
Gangs Plugging	Extremely Wet Conditions	Decrease Depth Of Work Or Allow To Dry If Possible
	Worn Or Improper Adjustment Of Scraper Blades	Readjust Scrapers, Replace Worn Parts.
Gang Does Not Revolve	Obstruction In Disc Gang	Check For Rocks, Mud Roots, Etc.
	Scrapers	Check For Scraper Adjusted Too Tight To The Disc Blades
	Seized Bearing	Replace
	Plugging At Bearing Arm	Try Removing Scraper At This Location
Wing Will Not Flex Down Far Enough	Wing Lift Cylinder	Make Sure Cylinders Are Fully Extended
Disc Will Not Penetrate Or Penetrates Too Much	Stroke Control Settings On Wheel Control Cylinders	Readjust Depth Control Stops
Wheels Have Excessive Wobble	Loose Wheel Bolts	Immediately Stop And Torque Bolts To 90 to 95 Ft. Lbs.
	Loose Spindle Nut	Tighten Nut Until Tight Then Back Off One Or Two Notches

PROBLEM	POSSIBLE CAUSES	POSSIBLE REMEDY
Discs Have Excessive Wobble	Tie Rod Nut Loose	Re-torque Nut On Tie Rod To 600 Ft. Lbs.
Disc Will Not Lower Or Wings Will Not Lower	Transport Locks Engaged	Disengage Locks
Wings Will Not Raise To Transport Position	Plugged Restrictor	Remove Restrictor From Rod End Of Cylinder And Check Orifice For Foreign Material
	Insufficient Hydraulic Pressure	Check Tractor Hydraulic System
Inadequate Transport Clearance	Wheel Control Cylinders Not Extended	Extend Cylinders
	Tire Pressure Low	Inflate 11L X 15 Tires To 32 P.S.I., And 9.5L X 15 Tires To 32 P.S.I.
	Disc Not Level From Front To Rear	Adjust Leveling Screws

PARTS SECTION

THE FOLLOWING ILLUSTRATED PARTS SECTION HAS BEEN COMPILED TO REFLECT PART NUMBERS REQUIRED TO ORDER PARTS, AND TO SUPPORT THE ASSEMBLY SECTION FOR DIMENSIONS AND DESCRIPTIONS OF ALL PARTS, BOLTS, PINS, ETC. THE OPERATOR CAN ALSO IDENTIFY PART NAMES TO CLARIFY PROPER OPERATIONAL STEPS.

N O T E S



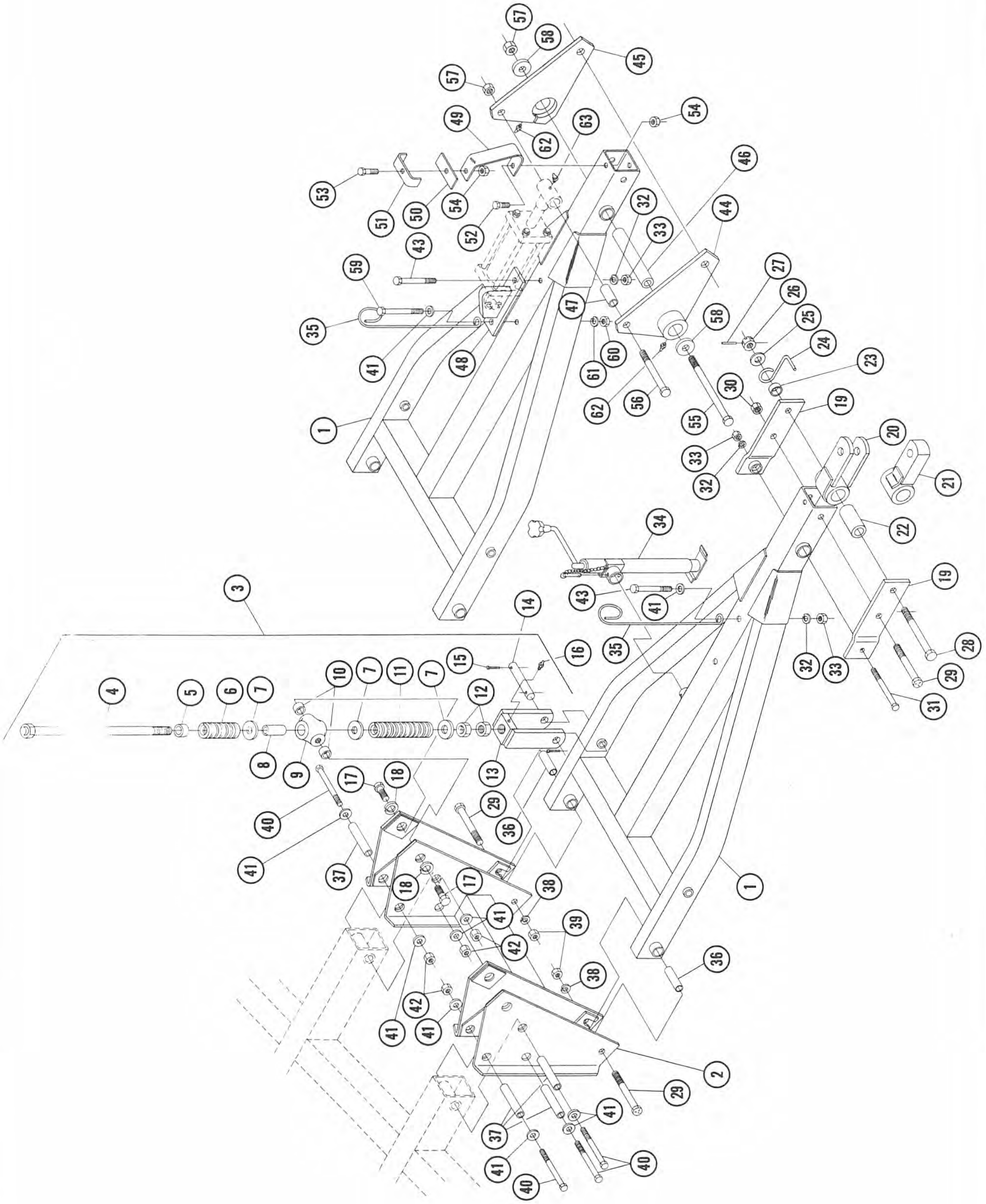
2/84

MAIN FRAME & GANG BEAMS

FOR MODELS - ALL

1/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	4901-1-0	Main Frame	1
2	4901-34-0	Front Gang Beam	2
3	4901-35-0	Rear Gang Beam	2
4	4901-44-0	Wing Support	2
5	4901-48-0	Road Lock Pin Assembly	1
6	4515-59-0	Lamp Bracket Assembly	1
7	1580-26-2	Bolt Plate	4
8	60-103	P.T.O. Lock Pin	1
9	61-144	1" Dia. U-Bolt	4
10	63-119	1NC Self Locking Nut	8
11	62-225	3/4NC X 10" GRADE 5 Machine Bolt	6
12	63-112	3/4NC Hex Nut	8
13	64-112	3/4" STD. Lock Washer	8
14	64-113	3/4" STD. Flat Washer	6
15	62-205	3/4NC X 5" GRADE 5 Cap Screw	2
16	62-167	5/8NC X 1-3/4" Cap Screw	4
17	63-109	5/8NC Hex Nut	4
18	64-109	5/8" STD. Lock Washer	4
19	64-110	5/8" STD. Flat Washer	4
20	65-102	1/8NPT X 90° Zerk	4

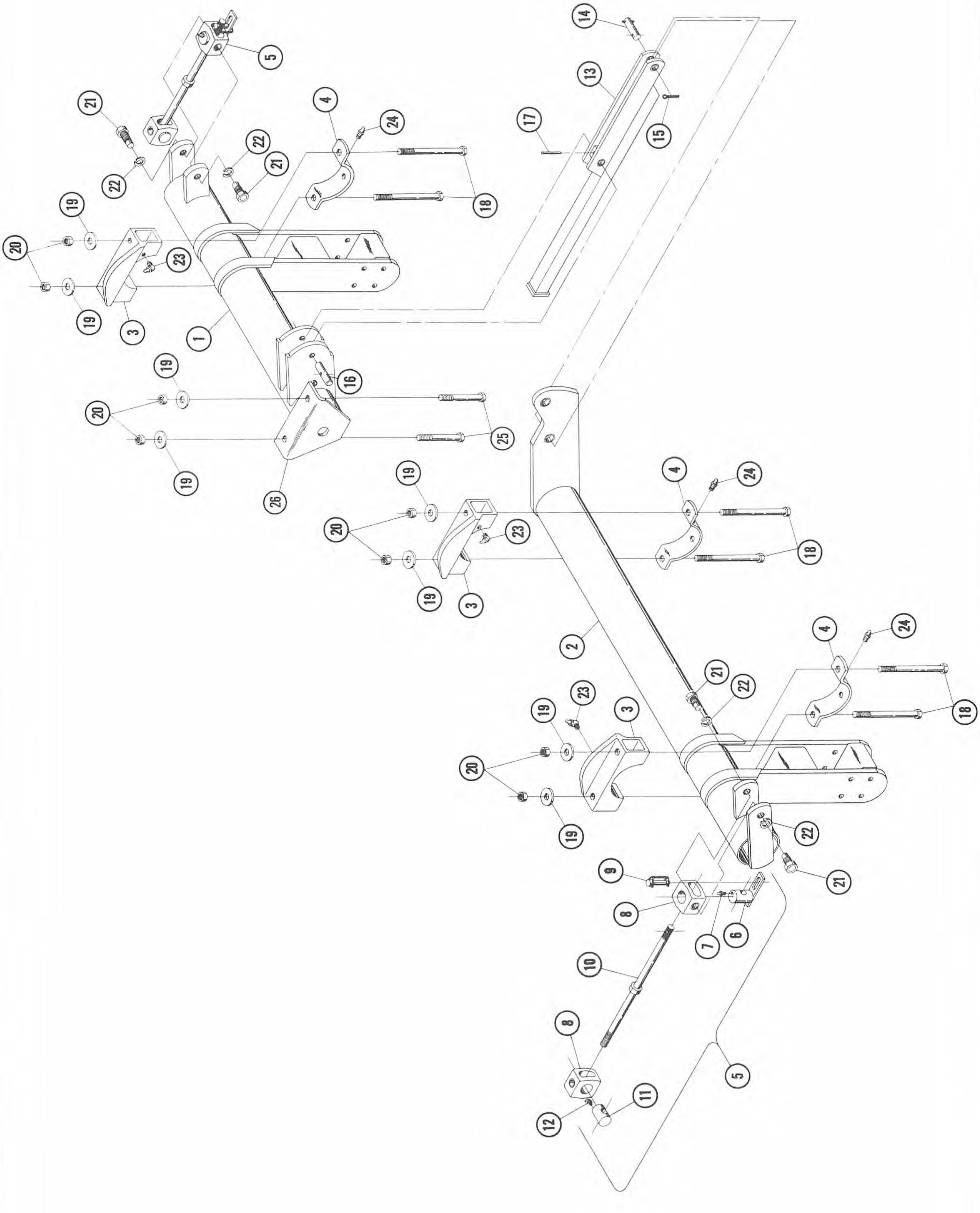


STANDARD TONGUE & HYDRAULIC TONGUE

FOR MODELS - ALL 8/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	4901-30-0	Tongue Weldment	1
2	4901-70-0	Hitch Weldment	1
3	4901-50-0	Adjustment Screw Assembly	2
4	1901-33-0	Adjustment Screw	1
5	2426-6-2	Cylinder Tube	1
6	76-111	Spring	1
7	64-126	1-1/4" STD. Flat Washer	3
8	3221-35-1	Spacer Tube	1
9	2426-35-1	Trunnion	1
10	2426-0-17	Bushing	2
11	76-110	Spring	1
12	63-124	1-1/4NC Hex Jam Nut	2
13	960-34-0	Adjustment Screw Clevis	1
14	960-35-2	Pin	1
15	60-706	7/32" Dia. X 2" Cotter Key	2
16	60-101	1/8NPT Zerk	1
17	62-234	1NC X 2" Hex Cap Screw	2
18	64-118	1" STD. Lock Washer	2
19	4901-28-0	Side Plate Weldment	2
20	270-75-0	Clevis Weldment (Standard)	1
21	270-76-0	Crawler Clevis Weldment (Optional)	1
22	960A-0-15	Hitch Tube	1
23	1901-0-21	Bushing	1
24	76-119	Clevis Spring	1
25	64-126	1-1/4" STD. Flat Washer	1
26	63-125	1-1/4NC Slotted Hex Nut	1
27	60-606	1/4" Dia. X 2" Roll Pin	1
28	62-322	1-1/4NC X 7-1/2" Hitch Bolt	1
29	62-251	1NC X 6-1/2" GRADE 5 Cap Screw	3
30	63-119	1NC Self Locking Nut	1
31	62-214	3/4NC X 7" Cap Screw	1
32	64-112	3/4" STD. Lock Washer	2
33	63-112	3/4NC Hex Nut	2
34	73-100	Jack Assembly	1
35	24-100	Hose Carrier	1
36	4901-0-8	Bushing	2
37	4901-0-9	Spacer	6
38	64-118	1" STD. Lock Washer	2
39	63-117	1NC Hex Nut	2
40	62-212	3/4NC X 6-1/2" Cap Screw	6
41	64-113	3/4" STD. Flat Washer	13
42	63-114	3/4NC Self Locking Nut	12
43	62-206	3/4NC X 5-1/2" Cap Screw	1
*44	4901-92-0	Right Hitch Plate Weldment	1
*45	4901-93-0	Left Hitch Plate Weldment	1
*46	4901-0-14	Spacer Tube	1
*47	570-0-8	Spacer	1
*48	4901-68-0	Tongue Cylinder Weldment	1
*49	4901-0-12	Hose Stand	1
*50	2145-170-5	Plate	1
*51	2426-170-5	Clamp	1
*52	62-136	1/2NC X 1-1/2" Cap Screw	1
*53	62-142	1/2NC X 2" Cap Screw	1
*54	63-107	1/2NC Self Locking Nut	2
*55	62-266	1NC X 12" Cap Screw	1
*56	62-252	1NC X 7" Cap Screw	1
*57	63-119	1NC Self Locking Nut	2
*58	770-101-3	Flat Washer	2
*59	62-209	3/4NC X 6" Cap Screw	1
*60	63-112	3/4NC Hex Nut	1
*61	64-112	3/4" STD. Lock Washer	1
*62	65-101	1/8NPT STD. Zerk	2
*63	65-100	1/8NPT X 45° Zerk	1

* For Hydraulic Tongue only



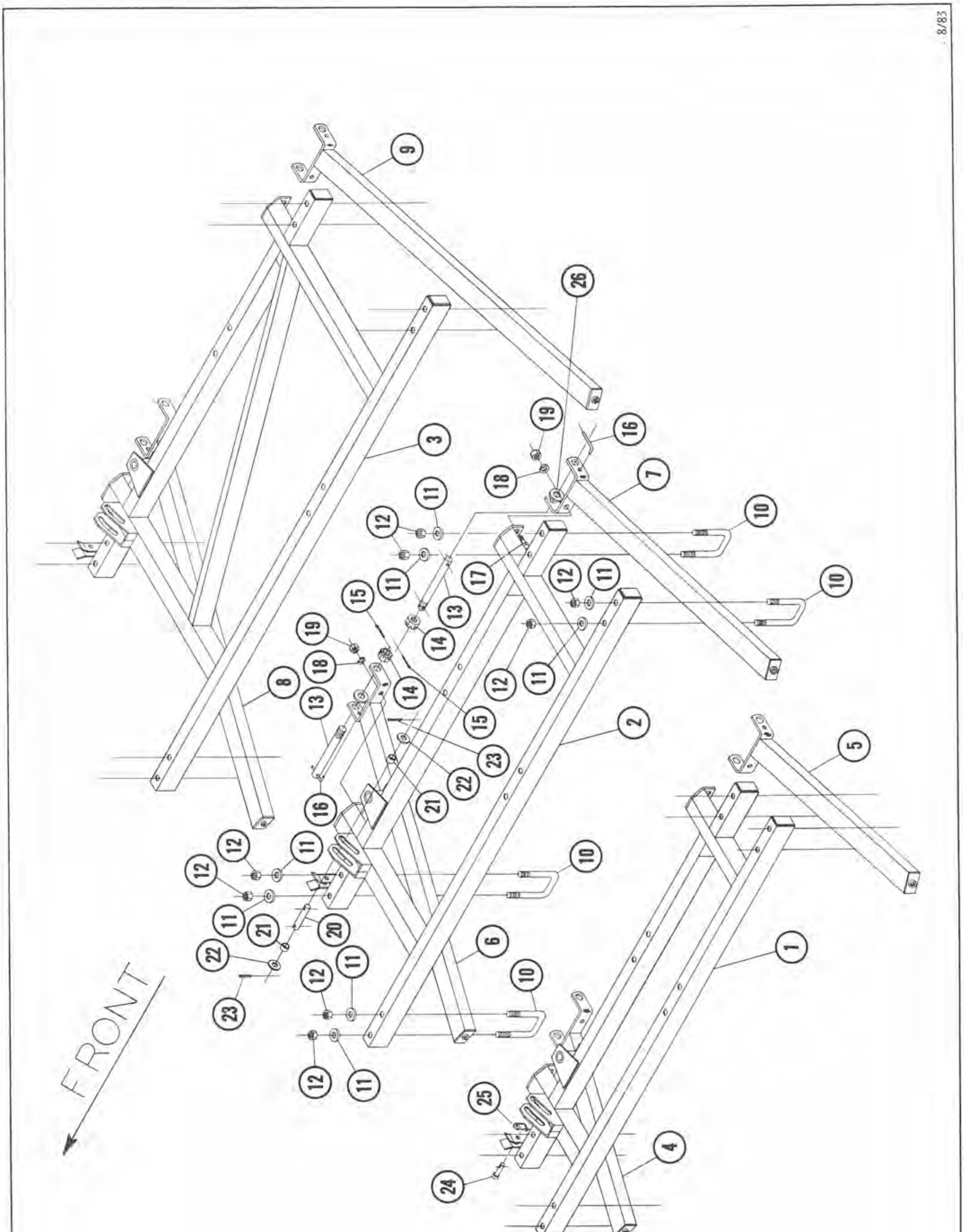
MAIN ROCKER SHAFTS

FOR MODELS - ALL

2/84

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	4901-10-0	Right Basic Rocker Shaft	1
2	4901-11-0	Left Basic Rocker Shaft	1
3	4901-0-10	Rocker Shaft Clamp Casting	3
4	4901-0-2	Rocker Clamp	3
5	4901-40-0	Adjustment Link Assembly	2
6	4901-43-0	Trunnion Shaft Weldment	1
7	65-101	1/8NPT Zerk	1
8	4901-45-0	Trunnion Assembly	2
9	4901-42-0	Lock Pin Assembly	1
10	4901-41-0	Connecting Rod Weldment	1
11	4901-40-1	Left Trunnion Shaft	1
12	65-102	1/8NPT X 90° Zerk	1
13	4901-36-0A	Road Lock Weldment	1
14	4901-47-0	Connector Pin Assembly	1
15	60-704	3/16" Dia. X 2" Cotter Pin	1
16	4901-0-5	Connector Pin	1
17	60-618	3/8" Dia. X 3" Roll Pin	1
18	62-265	1NC X 11" Machine Bolt	6
19	64-119	1" STD. Flat Washer	8
20	63-119	1NC Self Locking Nut	8
21	4901-46-0	Pivot Bolt Weldment	4
22	64-125	1-1/4" STD. Lock Washer	4
23	65-100	1/8NPT X 45° Zerk	3
24	65-101	1/8NPT STD. Zerk	3
25	62-252	1NC X 7" Cap Screw	2
26	4901-52-0	Rocker Bearing Assembly	1

8/83



WINGS

FOR MODELS - ALL

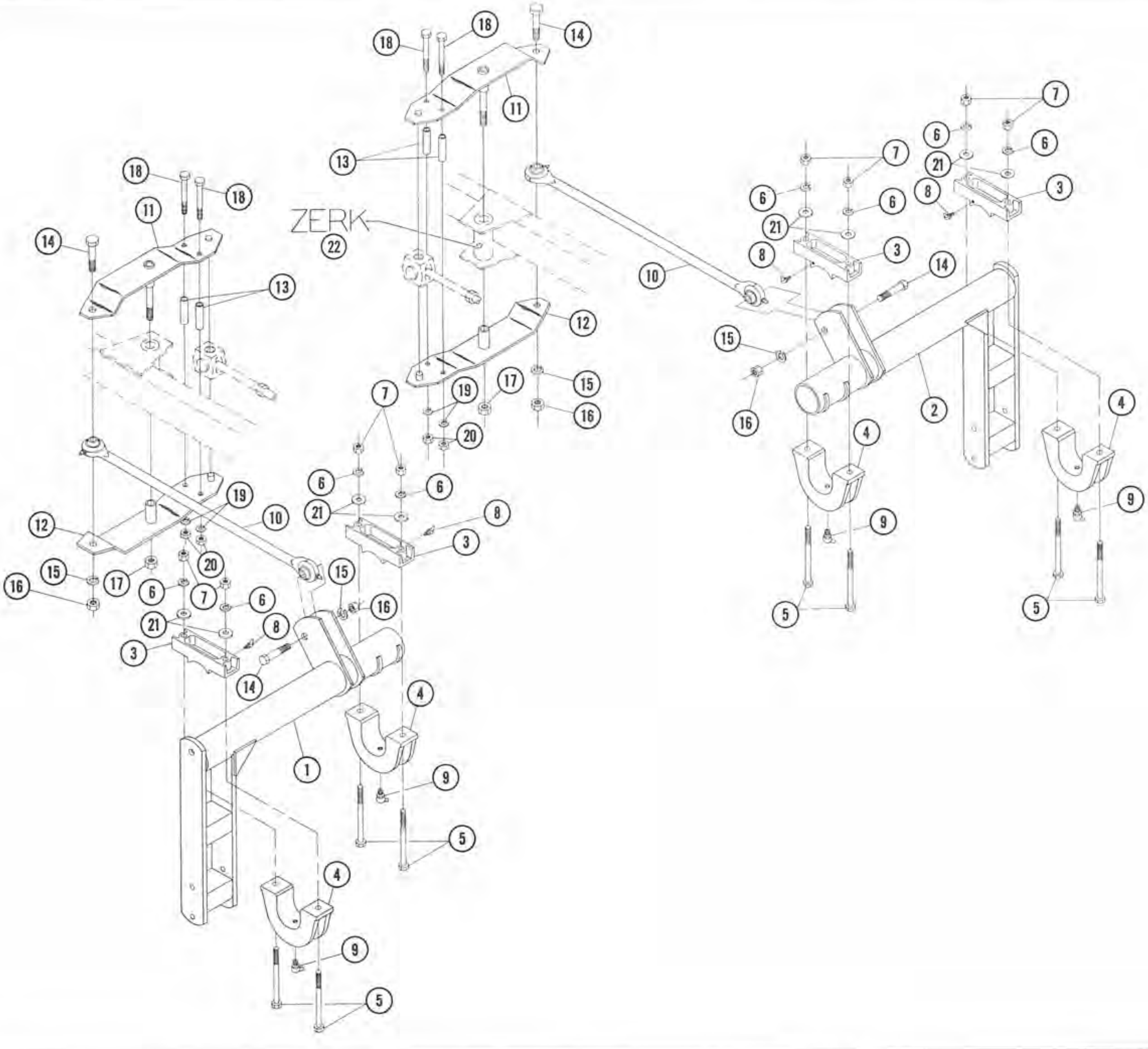
5/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
*1	4901-18-0	Left Wing Frame (SHOWN)	1
*	4901-20-0	Right Wing Frame	1
+2	4904-18-0	Left Wing Frame (SHOWN)	1
+	4904-20-0	Right Wing Frame	1
▲3	4907-18-0	Left Wing Frame (SHOWN)	1
▲	4907-20-0	Right Wing Frame	1
*4	4901-23-0	Front Wing Beam Weldment	2
*5	4901-24-0	Rear Wing Beam Weldment	2
+6	4904-23-0	Front Wing Beam Weldment	2
+7	4904-24-0	Rear Wing Beam Weldment	2
▲8	4907-23-0	Front Wing Beam Weldment	2
▲9	4907-24-0	Rear Wing Beam Weldment	2
10	61-144	1" Dia. U-Bolt	8
11	64-119	1" STD. Flat Washer	16
12	63-119	1NC Self Locking Nut	16
13	4901-0-1	Hinge Pin	4
14	63-128	1-1/2NC Slotted Hex Nut	4
15	60-711	1/4" Dia. X 3" Cotter Pin	4
16	1901-0-2	Hinge Pin Lock	4
17	62-194	3/4NC X 2-1/2" Cap Screw	4
18	64-112	3/4" STD. Lock Washer	4
19	63-112	3/4NC Hex Nut	4
20	1844-0-5	Cylinder Pin	2
21	53-101	Wear Sleeve	4
22	64-126	1-1/4" STD. Flat Washer	4
23	60-608	1/4" DIA. X 2-1/2" Roll Pin	4
24	60-216	3/4" Dia. X 2-1/2" Clevis Pin	2
25	60-104	Safety Pin	2
26	64-145	2-1/2" O.D. X 1-5/8" I.D. Washer	4

* For Models 4901, 4912, 4921, 4932

+ For Models 4904, 4906, 4915, 4916, 4924, 4926, 4935, 4936

▲ For Models 4907, 4918, 4927, 4938


ZERK

WING ROCKERS

FOR MODELS - ALL

2/84

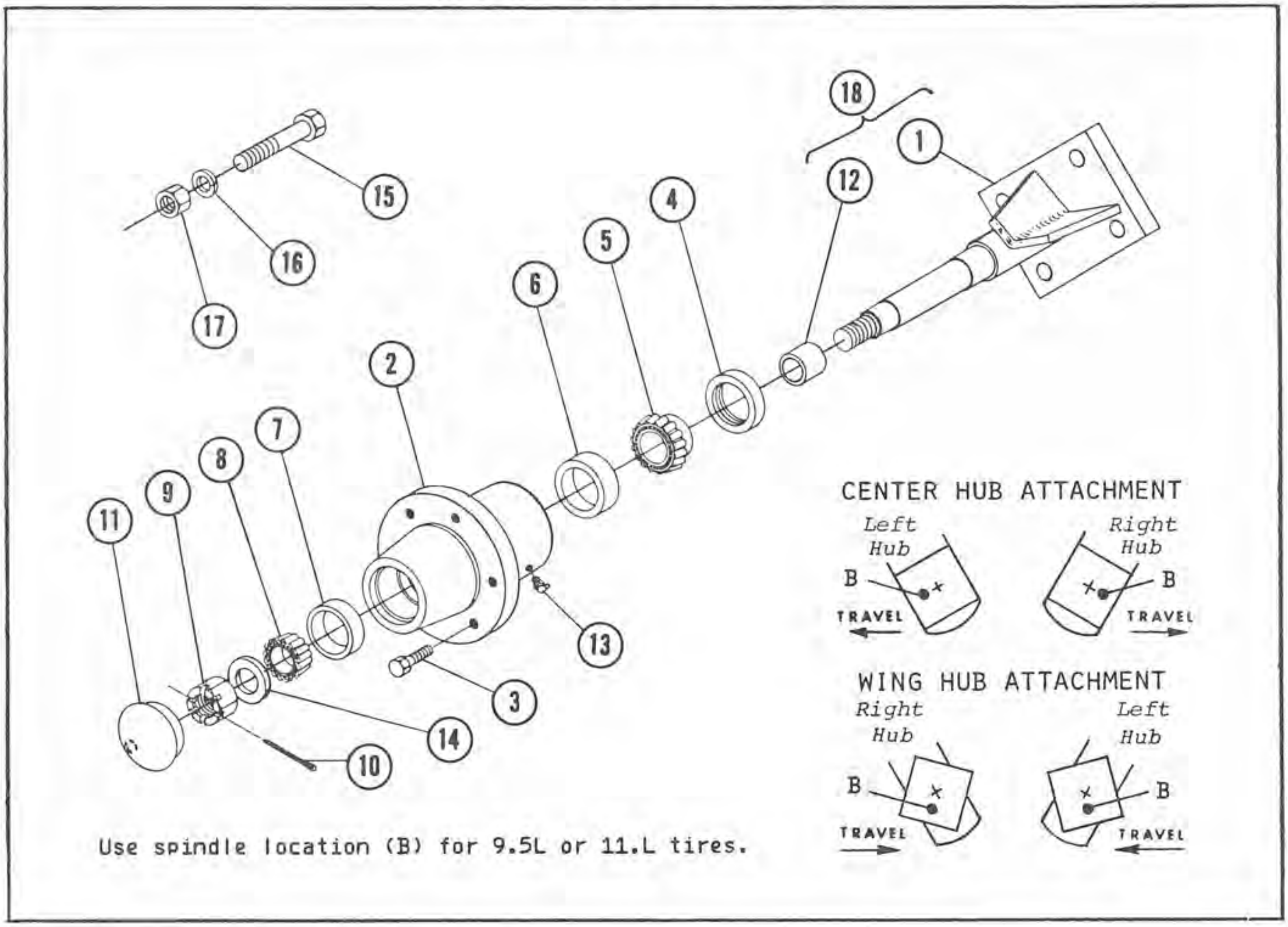
ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
*1	4901-12-0	Left Wing Rocker Shaft	1
+	4904-12-0	Left Wing Rocker Shaft	1
▲	4907-12-0	Left Wing Rocker Shaft	1
*2	4901-13-0	Right Wing Rocker Shaft	1
+	4904-13-0	Right Wing Rocker Shaft	1
▲	4907-13-0	Right Wing Rocker Shaft	1
3	4901-0-3	Rocker Bearing Plate	4
4	1112-0-7A	Rocker Shaft Clamp	4
5	62-221	3/4NC X 9" Cap Screw	8
6	64-112	3/4" STD. Lock Washer	8
7	63-112	3/4NC Hex Nut	8
8	65-100	1/8NPT X 45° Zerk	4
9	65-104	1/4NPT X 67-1/2° Zerk	4
10	70-107	Connecting Link	2
11	4901-76-0	Crank Weldment	2
12	4901-78-0	Crank Weldment	2
13	4901-0-17	Spacer	4
14	62-241	1NC X 4" Cap Screw	4
15	64-118	1" STD. Lock Washer	4
16	63-117	1NC Hex Nut	4
17	63-119	1NC Self Locking Nut	2
18	62-182	5/8NC X 5-1/2" Cap Screw	4
19	64-109	5/8" STD. Lock Washer	4
20	63-109	5/8NC Hex Nut	4
21	64-113	3/4" STD. Flat Washer	8
22	65-101	1/8NPT Zerk	2

* For Models 4901, 4912, 4921, 4932

+ For Models 4904, 4906, 4915, 4916, 4924, 4926, 4935, 4936

▲ For Models 4907, 4918, 4927, 4938

HUB ASSEMBLY



Use spindle location (B) for 9.5L or 11.L tires.

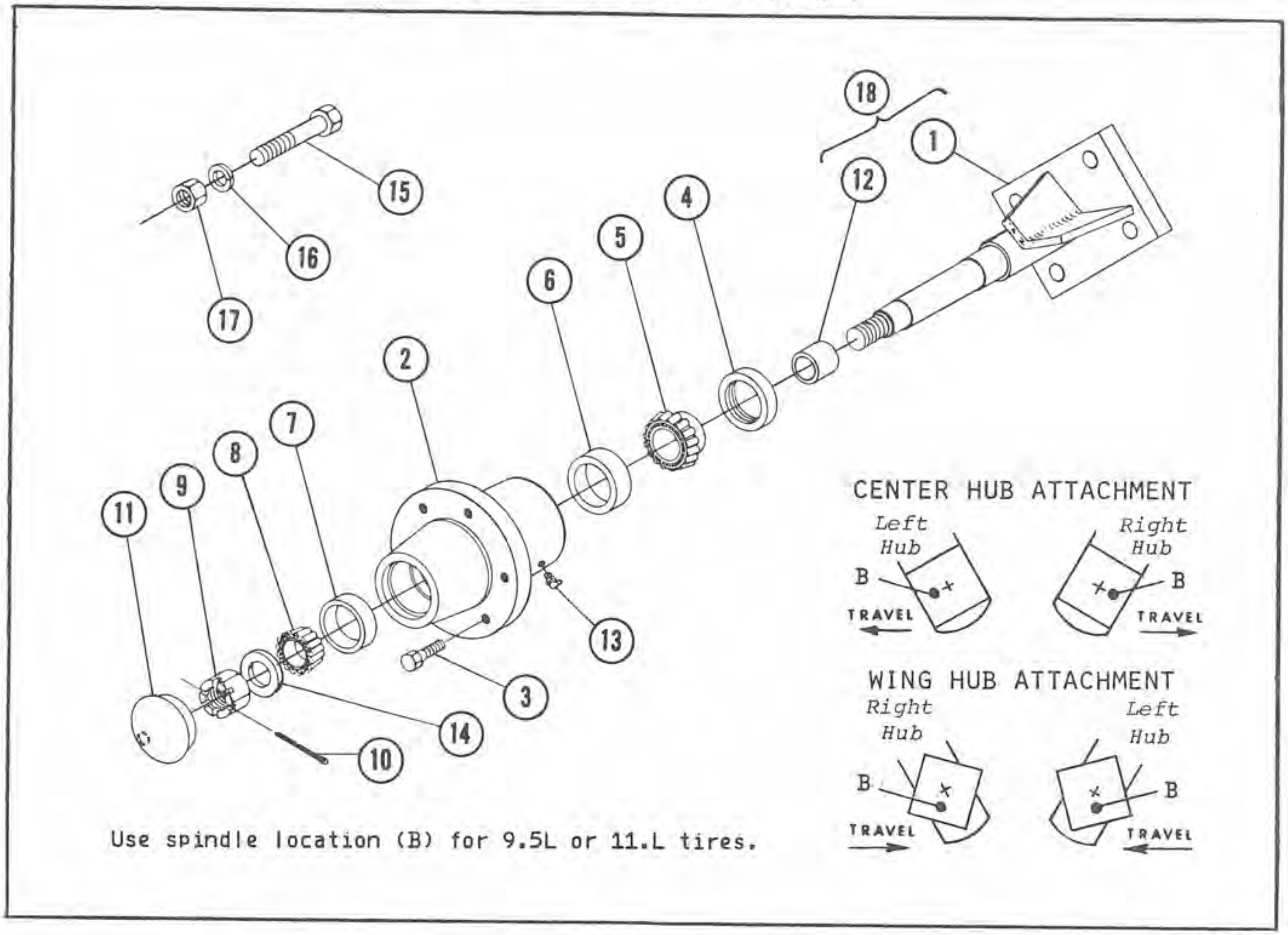
1/83

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
	1918-17-0	Hub and Axle Assembly	
1	1918-12-0	Stub Axle Weldment	1
2	1918-8-1	Hub Casting	1
3	62-195	Wheel Bolt	6
4	42-108	Seal	1
5	41-113	Rear Cone	1
6	41-209	Rear Cup	1
7	41-208	Front Cup	1
8	41-112	Front Cone	1
9	63-204	1NF Slotted Nut	1
10	60-702	3/16" Dia. X 1-1/2" Cotter Key	1
11	52-302	Hub Cap	1
12	53-105	Wear Ring	1
13	65-104	1/4NPT X 67-1/2° Zerk	1
14	64-120	1" S.A.E. Flat Washer	1
*15	62-194	3/4NC X 2-1/2" Cap Screw	
*16	64-112	3/4" STD. Lock Washer	
*17	63-112	3/4NC Hex Nut	
18	1918-15-0	Repair Spindle And Sleeve Assembly	

* 2 Required for each wing hub

4 Required for each center section hub.

HUB ASSEMBLY



Use spindle location (B) for 9.5L or 11.L tires.

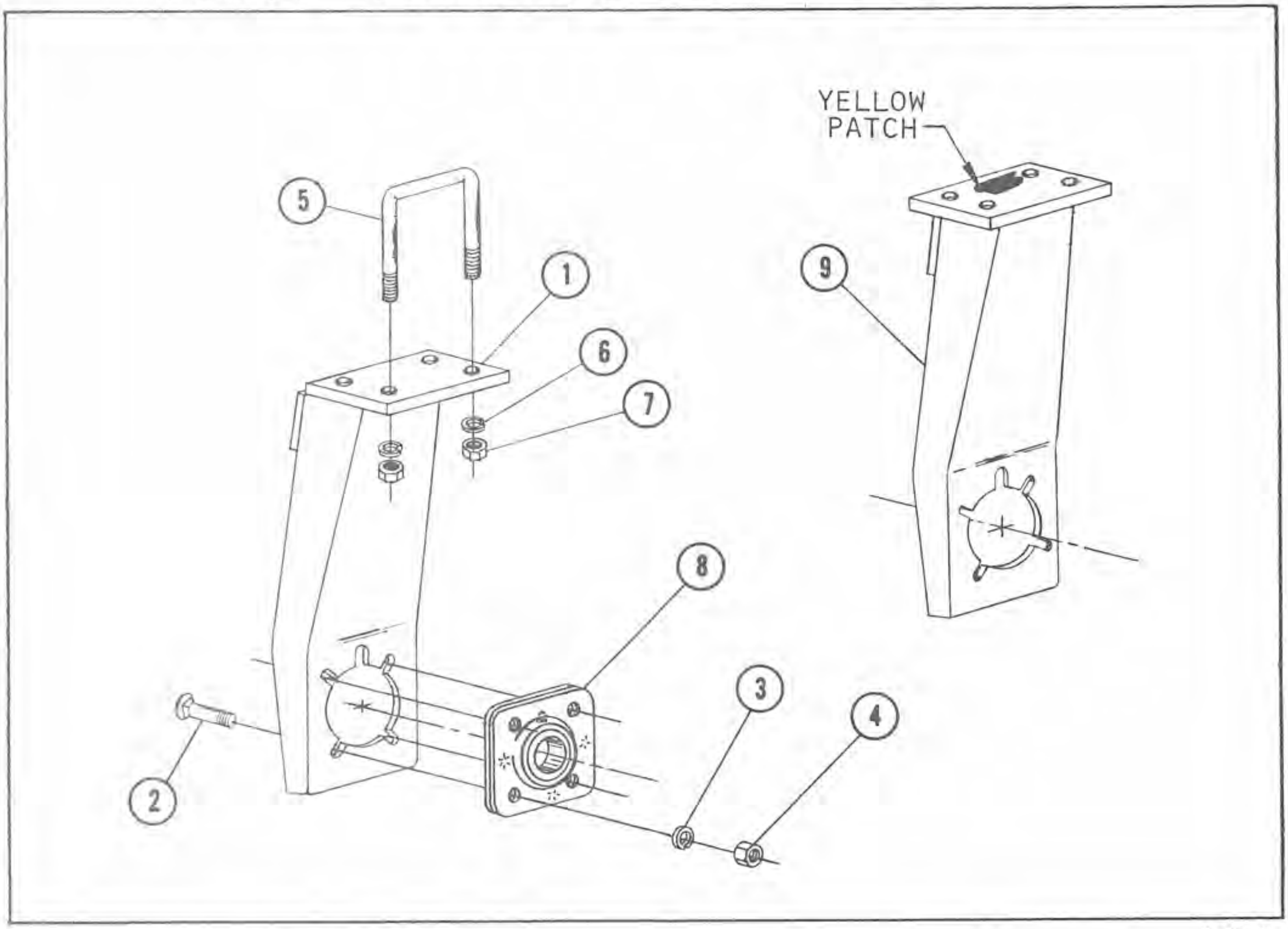
1/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	2135-17-0	Hub and Axle Assembly	
1	2135-12-0	Stub Axle Weldment	1
2	2135-8-1	Hub Casting	1
3	62-295	Wheel Bolt	6
4	42-109	Seal	1
5	41-114	Rear Cone	1
6	41-210	Rear Cup	1
7	41-208	Front Cup	1
8	41-112	Front Cone	1
9	63-204	1NF Slotted Nut	1
10	60-702	3/16" Dia. X 1-1/2" Cotter Key	1
11	52-302	Hub Cap	1
12	53-108	Wear Ring	1
13	65-104	1/4NPT X 67-1/2° Zerk	1
14	64-120	1" S.A.E. Flat Washer	1
*15	62-194	3/4NC X 2-1/2" Cap Screw	
*16	64-112	3/4" STD. Lock Washer	
*17	63-112	3/4NC Hex Nut	
18	2135-15-0	Repair Spindle and Sleeve Assembly	

* 2 Required for each wing hub.

4 Required for each center section hub.

RIGID BEARING ARM ASSEMBLY



FOR MODELS - 4901 - 4918

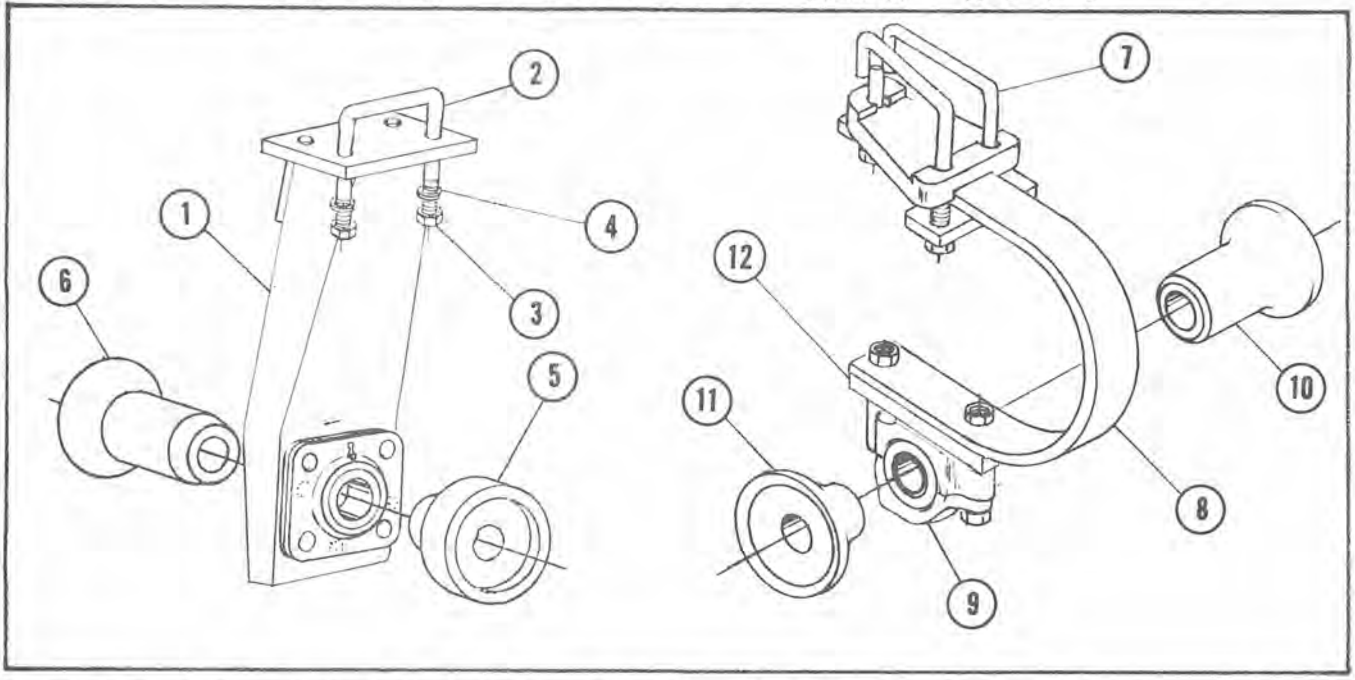
1/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	1918-11-0	Regreaseable Bearing Arm Assembly	Specify
1	1963-7-0	Bearing Arm	1
2	62-137	1/2NC X 1-1/2" Carriage Bolt	4
3	64-107	1/2" STD. Lock Washer	4
4	63-106	1/2NC Hex Nut	4
*5	61-110	U-Bolt	2
*6	64-112	3/4" STD. Lock Washer	4
*7	63-112	3/4NC Hex Nut	4
8	40-109	Bearing Assembly	1

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	1918-10-0	Regreaseable Bearing Arm Assembly (YELLOW TOP)	Specify
1	1963-9-0	Bearing Arm	1
2	62-137	1/2NC X 1-1/2" Carriage Bolt	4
3	64-107	1/2" STD. Lock Washer	4
4	63-106	1/2NC Hex Nut	4
*5	61-110	U-Bolt	2
*6	64-112	3/4" STD. Lock Washer	4
*7	63-112	3/4NC Hex Nut	4
8	40-109	Bearing Assembly	1

* Not Part Of Bearing Arm Assembly.

MIDDLE BEARING ARM KITS



RIGID BEARING ARM KITS

2/82

1955-16-0 REGREASEABLE MIDDLE BEARING ARM KIT FOR 8" SPACING

1	1918-11-0	Bearing Arm Assembly	1
2	61-110	U-Bolt	2
3	63-112	3/4NC Hex Nut	4
4	64-112	3/4" STD. Lock Washer	4
5	1918-0-8	Short Half Spool	1
6	374-0-9	Long Half Spool	1

1952-16-0 REGREASEABLE MIDDLE BEARING ARM KIT FOR 9-1/8" SPACING

1	1918-11-0	Bearing Arm Assembly	1
2	61-110	U-Bolt	2
3	63-112	3/4NC Hex Nut	4
4	64-112	3/4" STD. Lock Washer	4
5	1280-0-10	Short Half Spool	1
6	364-0-9	Long Half Spool	1

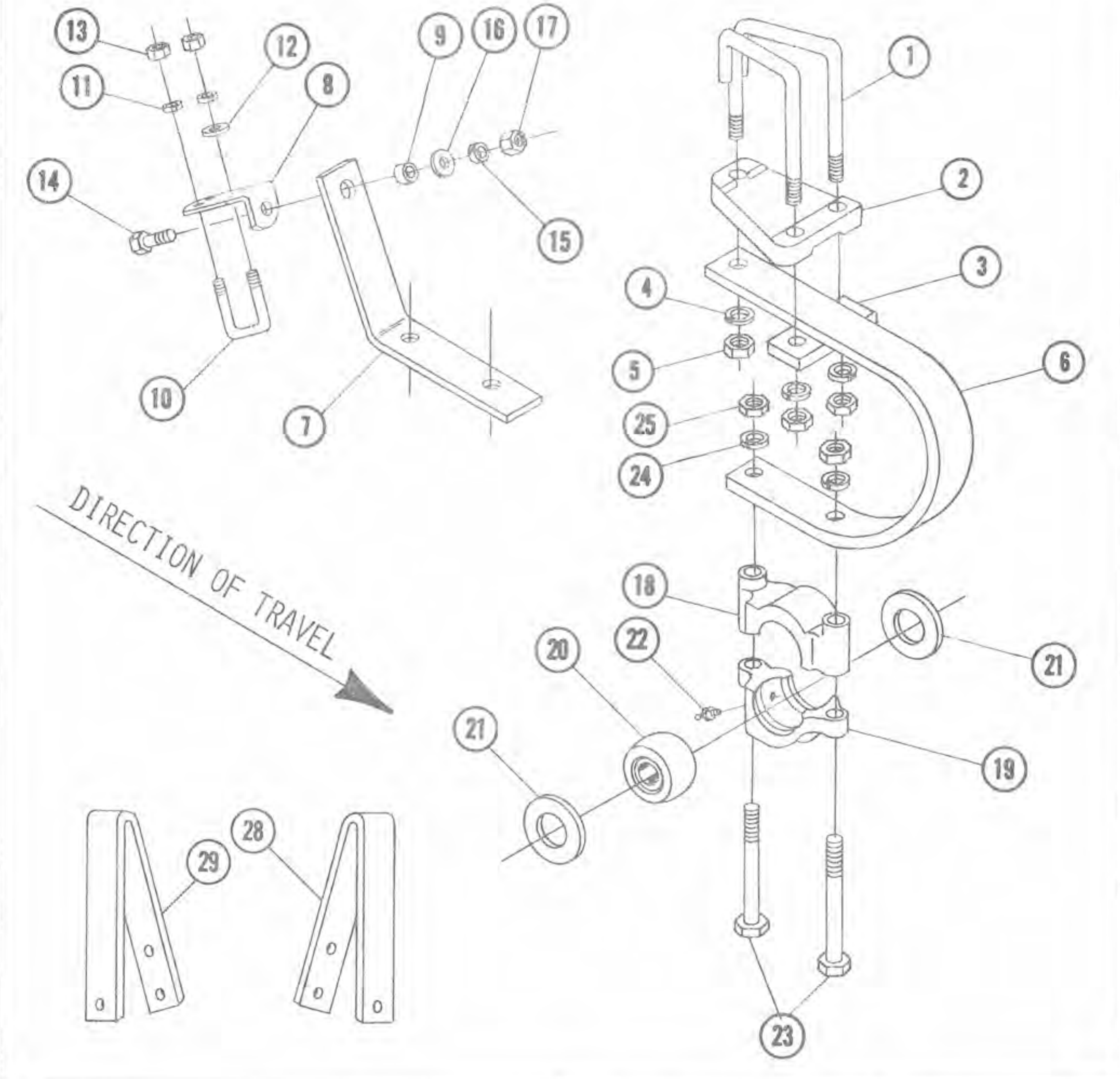
ROCK FLEX BEARING ARM KITS

2202-14-0 REGREASEABLE MIDDLE BEARING ARM KIT FOR 8" SPACING

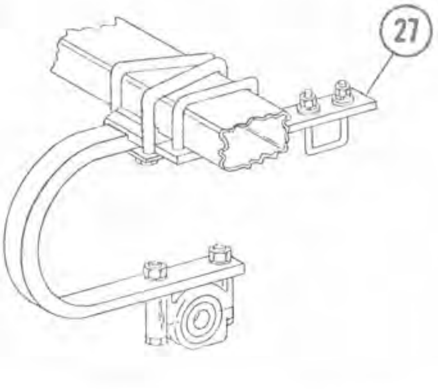
7	1922-14-0	Tri-Bolt Assembly	1
8	31-129	Shank	1
9	1922-21-0	Regreaseable Bearing Assembly	1
10	374-0-9	Long Half Spool	1
11	1918-0-8	Short Half Spool	1
12	922-81-1	Spacer	1

2242-15-0 REGREASEABLE MIDDLE BEARING ARM KIT FOR 9-1/8" SPACING

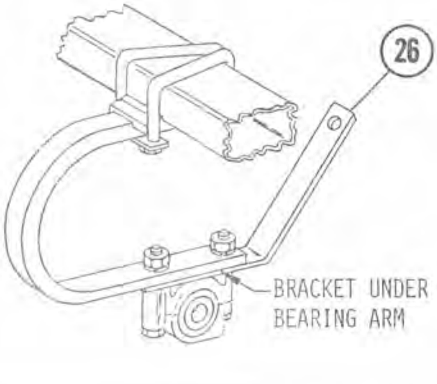
7	1922-14-0	Tri-Bolt Assembly	1
8	31-129	Shank	1
9	1922-21-0	Regreaseable Bearing Assembly	1
10	364-0-9	Long Half Spool	1
11	1280-0-10	Short Half Spool	1
12	922-81-1	Spacer	1



ROCK FLEX SCRAPER BRACKET FOR SPRING LOADED SCRAPERS



ROCK FLEX SCRAPER BRACKET LOCATION FOR RIGID SCRAPERS & TRASH BARS



ROCK FLEX BEARING ARM ASSEMBLY

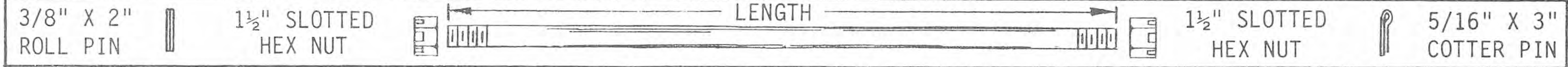
FOR MODELS - 4921 - 4938

1/83

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
	1922-14-0	Tri-Bolt Assembly	Specify
1	61-139	Tri-Bolt	1
2	1162-10-2	Shank Base	1
3	442-10-8	Shank Plate Base	1
4	64-112	3/4" Std. Lock Washer	3
5	63-112	3/4NC Hex Nut	3
6	31-129	Shank	Specify
	1922-17-0	Scraper Bracket Assembly	Specify
7	1922-110-1	Scraper Bracket	1
8	1922-110-2	Bracket Clip	1
9	1162-140-2	Bushing	1
10	61-115	U-Bolt	1
11	64-107	1/2" STD. Lock Washer	2
12	64-108	1/2" STD. Flat Washer	1
13	63-106	1/2NC Hex Nut	2
14	62-194	3/4NC X 2-1/2" Cap Screw	1
15	64-112	3/4" STD. Lock Washer	1
16	64-113	3/4" STD. Flat Washer	1
17	63-112	3/4NC Hex Nut	1
*	1922-21-0	Regreaseable Bearing Assembly	Specify
18	1927-10-2	Upper Bearing Housing	1
19	1927-10-1	Lower Bearing Housing	1
20	1927-11-0	Bearing Assembly	1
21	45-105	Side Ring	2
22	65-101	1/8NPT Zerk	1
23	62-209	3/4NC X 6" Cap Screw	2
24	64-112	3/4" STD. Lock Washer	2
25	63-112	3/4NC Hex Nut	2
26		Rock Flex Scraper Bracket For Rigid Scrapers See Items 7 thru 17 Above	
27		Rock Flex Scraper Bracket For Spring Loaded Scrapers See Page P for Scraper Bracket & U-Bolt Part Number	
28	31-130	Right Disc Harrow Shank	Specify
29	31-131	Left Disc Harrow Shank	Specify

* Regreaseable Bearing assemblies may be used on older units originally equipped with sealed bearings. The regreaseable bearing is 1/2" wider than the sealed bearings, therefore new half spools may be required.

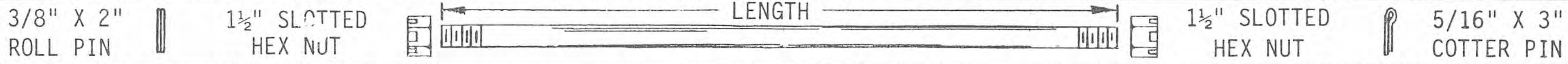
1-1/2" TIE RODS



MODEL	LOCATION		LENGTH	DISC SPACING	NO. OF DISC	ALLOY TIE ROD
4901	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	42-5/8"	9-1/8"	5	1901-16-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
4904	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	70"	9-1/8"	8	2222-18-1
4906	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	70"	9-1/8"	8	2222-18-1
		Rear	79-1/8"	9-1/8"	9	2224-18-1
4907	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	88-1/4"	9-1/8"	10	2225-18-1
		Rear	97-3/8"	9-1/8"	11	2227-18-1
4912	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	46-1/4"	8"	6	1912-18-1
		Rear	62-3/8"	8"	8	2138-82-1
4915	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	62-3/8"	8"	8	2138-82-1
		Rear	78-3/8"	8"	10	2214-18-1
4916	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	70-3/8"	8"	9	2212-18-1
		Rear	86-1/2"	8"	11	2215-18-1
4918	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	86-1/2"	8"	11	2215-18-1
		Rear	102-1/2"	8"	13	2217-18-1

Tie rod number does not include nuts or pins.

1-1/2" TIE RODS



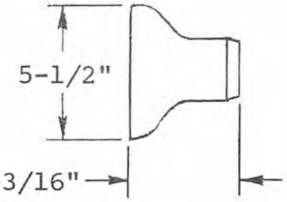
MODEL	LOCATION		LENGTH	DISC SPACING	NO. OF DISC	ALLOY TIE ROD
4921	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	42-5/8"	9-1/8"	5	1901-16-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
4924	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	70"	9-1/8"	8	2222-18-1
4926	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	70"	9-1/8"	8	2222-18-1
		Rear	79-1/8"	9-1/8"	9	2224-18-1
4927	CENTER	Front	60-7/8"	9-1/8"	7	2136-82-1
		Rear	51-3/4"	9-1/8"	6	2146-82-1
	WING	Front	88-1/4"	9-1/8"	10	2225-18-1
		Rear	97-3/8"	9-1/8"	11	2227-18-1
4932	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	46-1/4"	8"	6	1912-18-1
		Rear	62-3/8"	8"	8	2138-82-1
4935	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	62-3/8"	8"	8	2138-82-1
		Rear	78-3/8"	8"	10	2214-18-1
4936	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	70-3/8"	8"	9	2212-18-1
		Rear	86-1/2"	8"	11	2215-18-1
4938	CENTER	Front	62-3/8"	8"	8	2138-82-1
		Rear	46-1/4"	8"	6	1912-18-1
	WING	Front	86-1/2"	8"	11	2215-18-1
		Rear	102-1/2"	8"	13	2217-18-1

Tie rod number does not include nuts or pins.

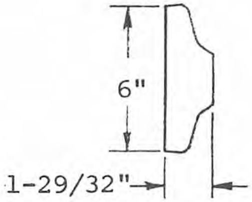
SPACER SPOOLS

8″ SPACING

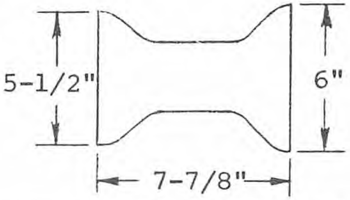
374-0-9
LONG
HALF SPOOL



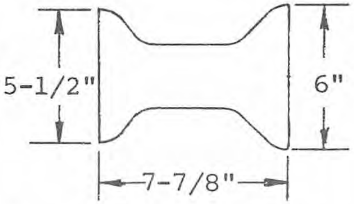
1918-0-8
SHORT
HALF SPOOL



1280-0-7
CAST
SPACER SPOOL

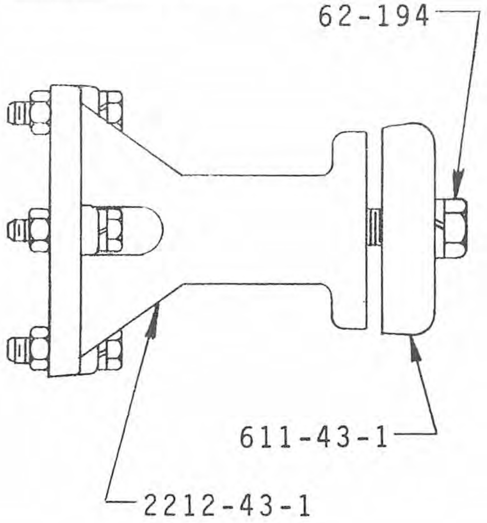


2165-0-8
DUCTILE
SPACER SPOOL

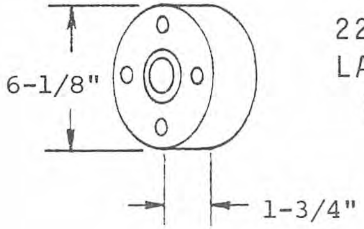


Ductile Spool For Rock Model

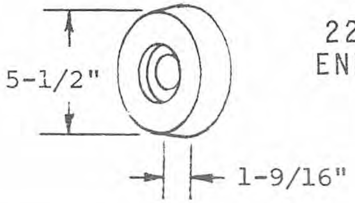
2212-43-0
EXTENSION SPOOL ASSEMBLY



END WASHERS FOR ALL MODELS



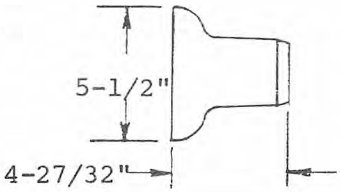
2212-18-3
LARGE END
WASHER



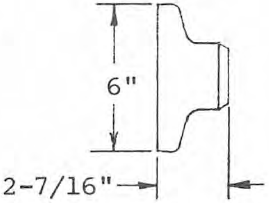
2212-18-2
END WASHER

9-1/8″ SPACING

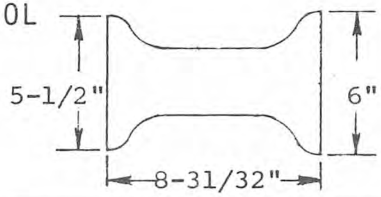
364-0-9
LONG
HALF SPOOL



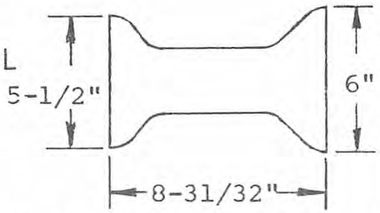
1280-0-10
SHORT
HALF SPOOL



364-0-7
CAST
SPACER SPOOL

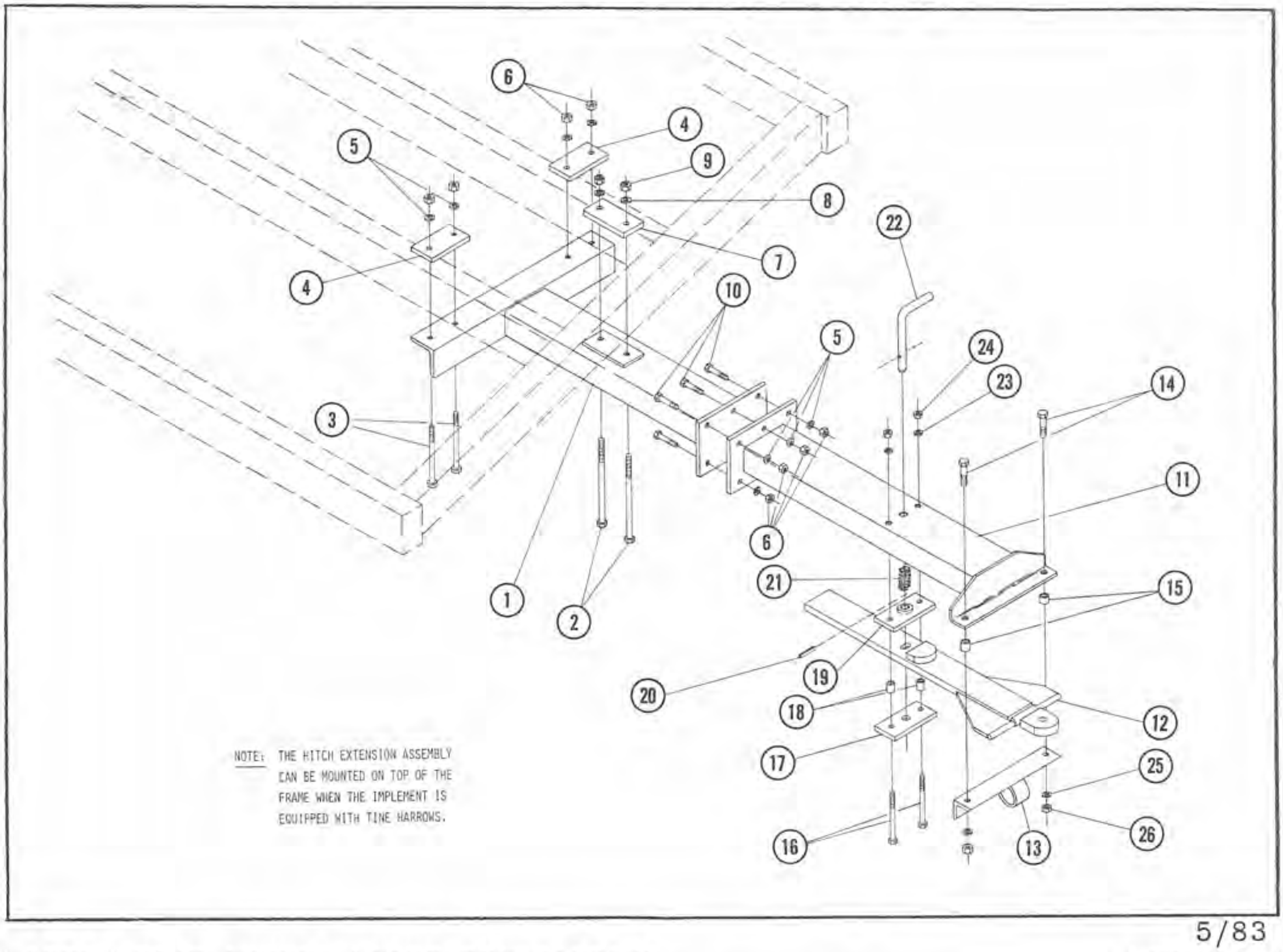


2166-0-9
DUCTILE
SPACER SPOOL



Ductile Spool For Rock Model

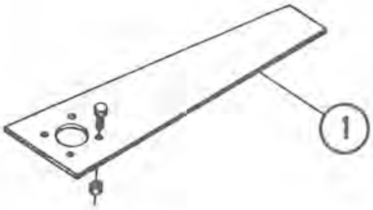
TRAIL HITCH ASSEMBLY

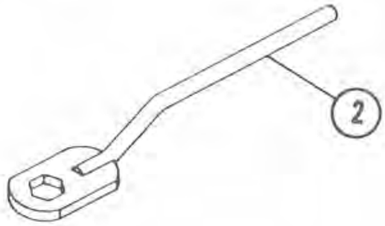


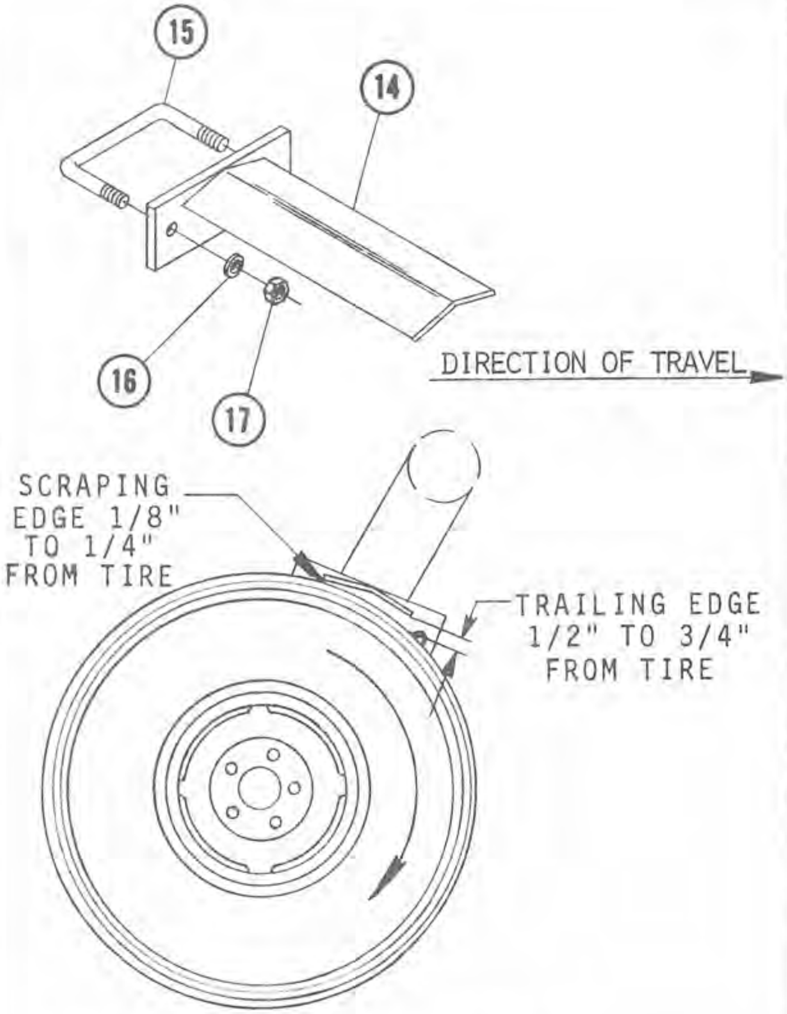
NOTE: THE HITCH EXTENSION ASSEMBLY CAN BE MOUNTED ON TOP OF THE FRAME WHEN THE IMPLEMENT IS EQUIPPED WITH TINE HARROWS.

5/83

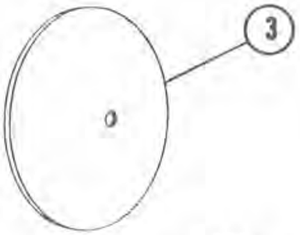
ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	4900-311-0	Hitch Extension Assembly	1
1	4900-310-0	Hitch Extension Weldment	1
2	62-226	3/4NC X 10-1/2" Machine Bolt	2
3	62-187	5/8NC X 7" Cap Screw	4
4	4900-311-2	Bolt Plate	2
5	64-109	5/8" STD. Lock Washer	10
6	63-109	5/8NC Hex Nut	10
7	4900-311-1	Bolt Plate	1
8	64-112	3/4" STD. Lock Washer	2
9	63-112	3/4NC Hex Nut	2
10	62-171	5/8NC X 2-1/2" Cap Screw	6
	3755-302-0	Hitch Assembly	1
11	3755-303-0	Hitch Frame Weldment	1
12	3755-304-0	Swing Tongue Weldment	1
13	3755-307-0	Angle Support Weldment	1
14	62-194	3/4NC X 2-1/2" Cap Screw	2
15	3755-302-4	Spacer	2
16	62-185	5/8NC X 6" Cap Screw	2
17	3755-302-2	Pin Guide	1
18	3755-302-3	Spacer	2
19	3755-305-0	Pin Guide Weldment	1
20	60-606	1/4" DIA. X 2" Roll Pin	1
21	76-137	Spring	1
22	3755-302-1	Spring Pin	1
23	64-109	5/8" STD. Lock Washer	2
24	63-109	5/8NC Hex Nut	2
25	64-112	3/4" STD. Lock Washer	2
26	63-112	3/4NC Hex Nut	2

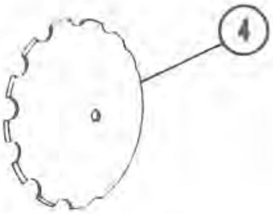


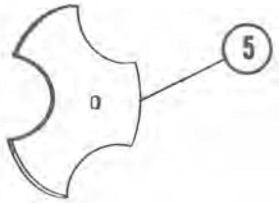


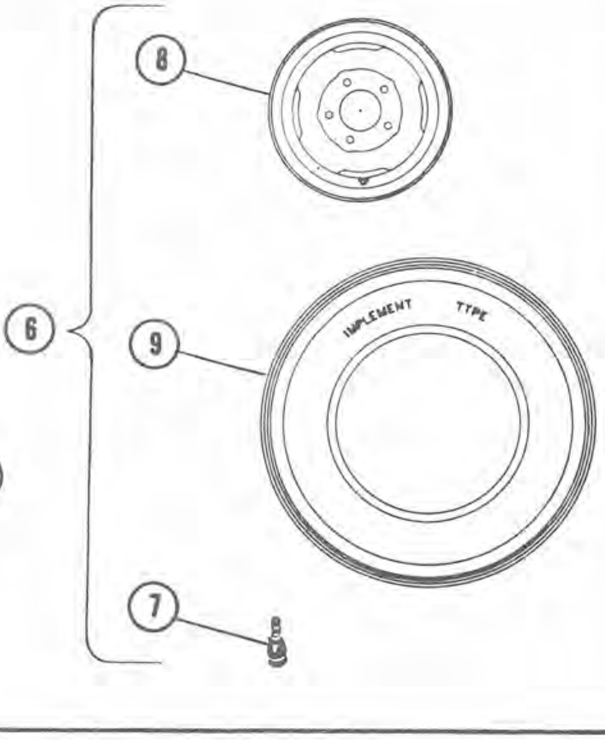

15
14
16
17
DIRECTION OF TRAVEL
SCRAPING EDGE 1/8" TO 1/4" FROM TIRE
TRAILING EDGE 1/2" TO 3/4" FROM TIRE

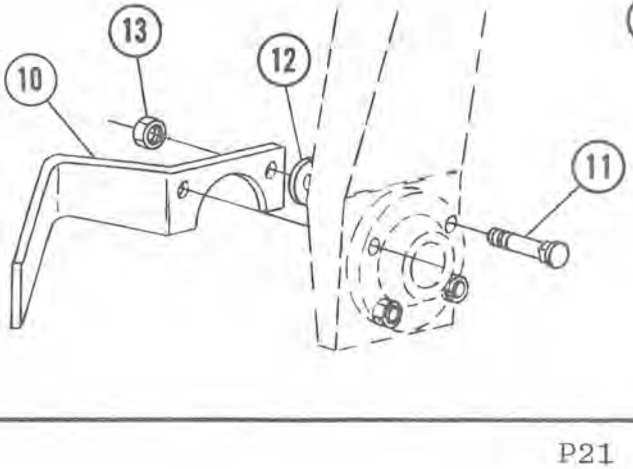
WING WHEELS ONLY











DISC BLADES, WHEELS & TIRES

FOR MODELS - ALL

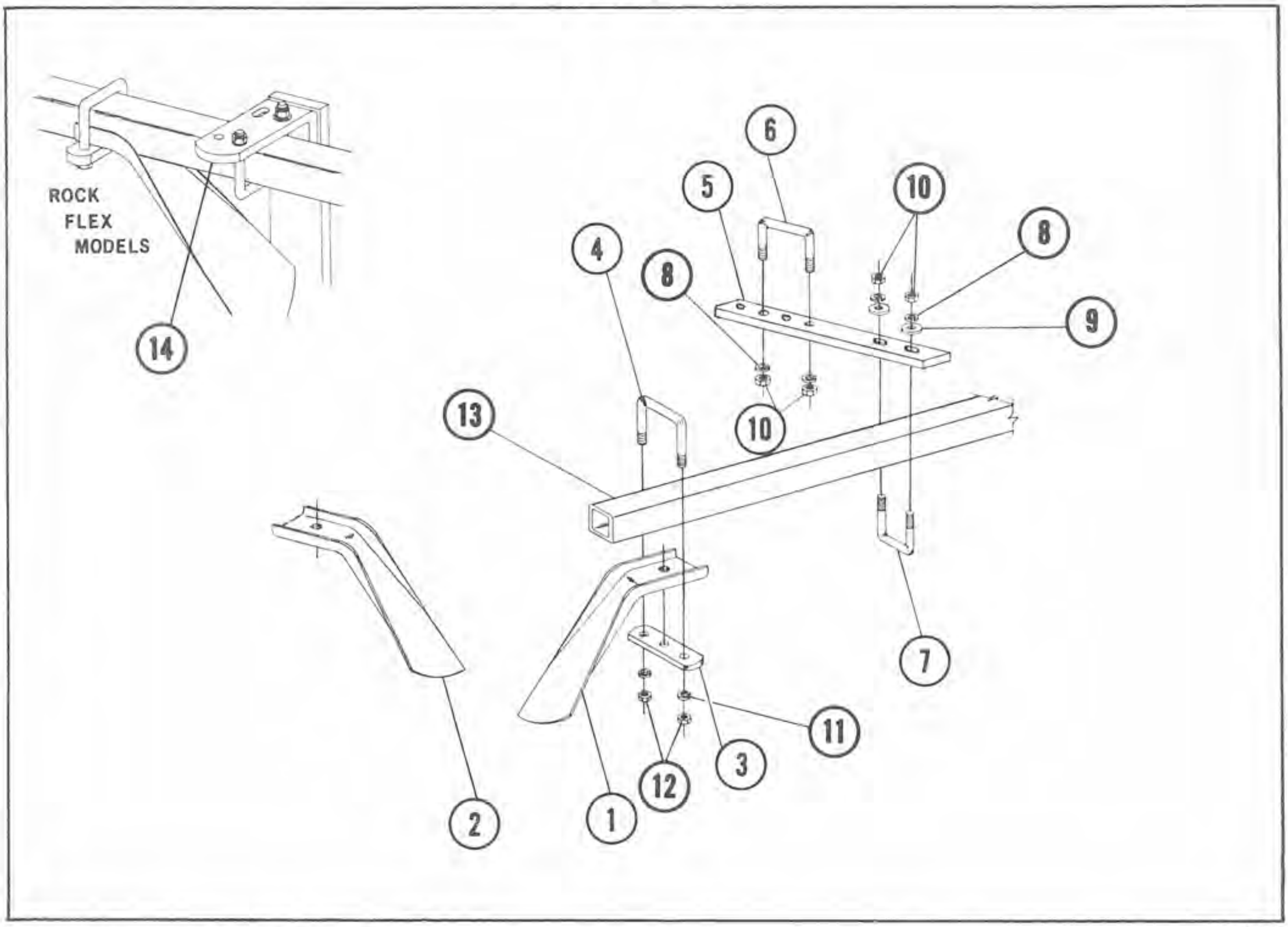
2/84

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	412-80-0	Tie Rod Holder (Accessory)	1
2	961-25-0	Tie Rod Wrench (Standard)	1
3	30-100	Plain Blade 16" Dia. 9 Ga. 163511-PS	
	30-102	Plain Blade 18" Dia. 9 Ga. 183511-PS	
	30-104	Plain Dub 18" Dia. 9 Ga. 183515-PD	
	30-108	Plain Dub 20" Dia. 7 Ga. 204515-PD	
	30-115	Plain Blade 22" Dia. 9 Ga. 223515-PS	
	30-118	Plain Dub 22" Dia. 7 Ga. 224515-PD	
	30-119	Plain Blade 22" Dia. 7 Ga. 224515-PS	
	30-159	Plain Dub 22" Dia. 6 Ga. 225015-PD	
	30-129	Plain Blade 24" Dia. 7 Ga. 244515-PS	
	30-169	Plain Dub 24" Dia. 6 Ga. 245015-PD	
4	30-103	Notched Blade 18" Dia. 9 Ga. 183515-NS	
	30-109	Notched Dub 20" Dia. 7 Ga. 204515-ND	
	30-116	Notched Blade 22" Dia. 9 Ga. 223515-NS	
	30-121	Notched Blade 22" Dia. 7 Ga. 224515-NS	
	30-170	Notched Blade 24" Dia. 7 Ga. 244515-NS	
5	30-148	Cut Out Blade 16" Dia. 7 Ga. 1055-0-16	
	30-147	Cut Out Blade 18" Dia. 7 Ga. 1050-0-18	
*	1901-200-0	Tire Bundle	
6	1000-11560-0	Wheel & Tire Assembly	4
7	51-107	#415 Valve Stem	1
8	52-103	15" X 10" Wheel	1
9	51-105	11L X 15, 6-Ply Tire	1
▲	1901-202-0	Tire Bundle	
6	1000-95568-0	Wheel & Tire Assembly	4
7	51-107	#415 Valve Stem	1
8	52-102	15" X 8" Wheel	1
9	51-101	9.5L X 15, 6-Ply Tire	1
6	1000-11560-0	Wheel & Tire Assembly	2
7	51-107	#415 Valve Stem	1
8	52-103	15" X 10" Wheel	1
9	51-105	11L X 15, 6-Ply Tire	1
	1918-170-0	Bar Scraper Bundle for 8" Spacing	
10	1918-170-1	R.F. - L.R. Bar Scraper	1
	1918-170-2	L.F. - R.R. Bar Scraper	1
11	62-139	1/2NC X 1-3/4" Carriage Bolt	2
12	64-108	1/2" STD. Flat Washer	4
13	63-107	1/2NC Self Locking Nut	2
	1907-170-0	Bar Scraper Bundle for 9-1/8" Spacing	
10	1907-170-1	R.F. - L.R. Bar Scraper	1
	1907-170-2	L.F. - R.R. Bar Scraper	1
11	62-139	1/2NC X 1-3/4" Carriage Bolt	2
12	64-108	1/2" STD. Flat Washer	4
13	63-107	1/2NC Self Locking Nut	2
	4901-105-0	Wheel Scraper Assembly	
14	4901-106-0	Wheel Scraper Weldment	1
15	4901-105-1	U-Bolt	1
16	64-109	5/8" STD. Lock Washer	2
17	63-109	5/8NC Hex Nut	2

* For Models - 4901, 4912, 4921, 4932

▲ For Models - 4904, 4906, 4907, 4915, 4916, 4918, 4924, 4926, 4927,
4935, 4936, 4938

SCRAPERS



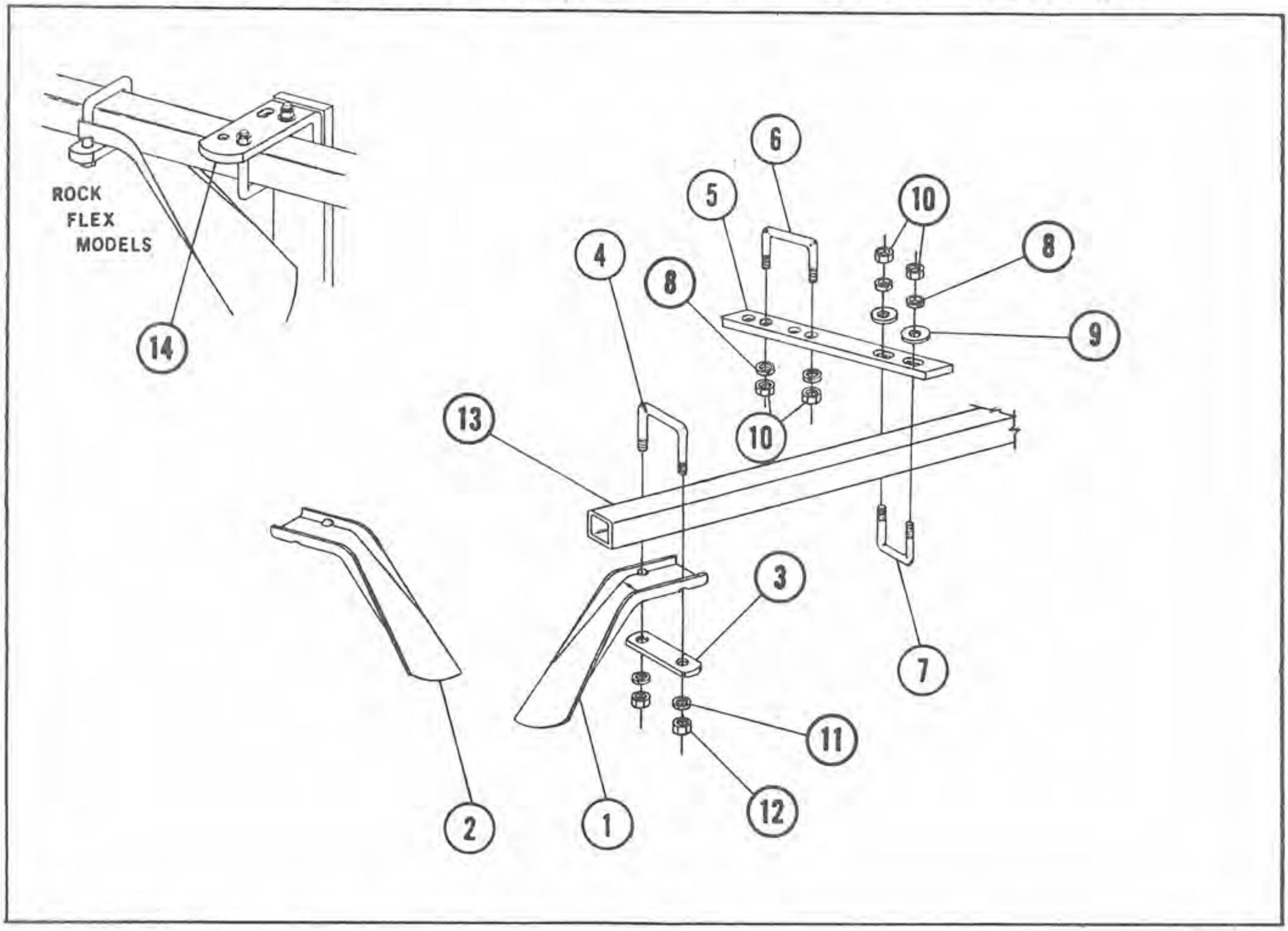
FOR MODELS - ALL

1/82

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	32-103	Left Scraper Blade (Left Rear - Right Front)	
2	32-101	Right Scraper Blade (Right Rear- Left Front)	
3	1483-286-1	Clamp	
4	61-108	U-Bolt	
5	1901-187-1	Bracket	
6	61-107	U-Bolt	
7	61-119	U-Bolt	
8	64-109	5/8" STD. Lock Washer	
9	64-110	5/8" STD. Flat Washer	
10	63-109	5/8NC Hex Nut	
11	64-107	1/2" STD. Lock Washer	
12	63-106	1/2NC Hex Nut	
*13		Scraper Frame	
14		Bracket Clip (For Parts Listing See P16)	

* For Scraper Frame Part Number & Length Refer to Placement Page For Model Being Assembled.

RIGID SCRAPERS FOR 24" DISC BLADES

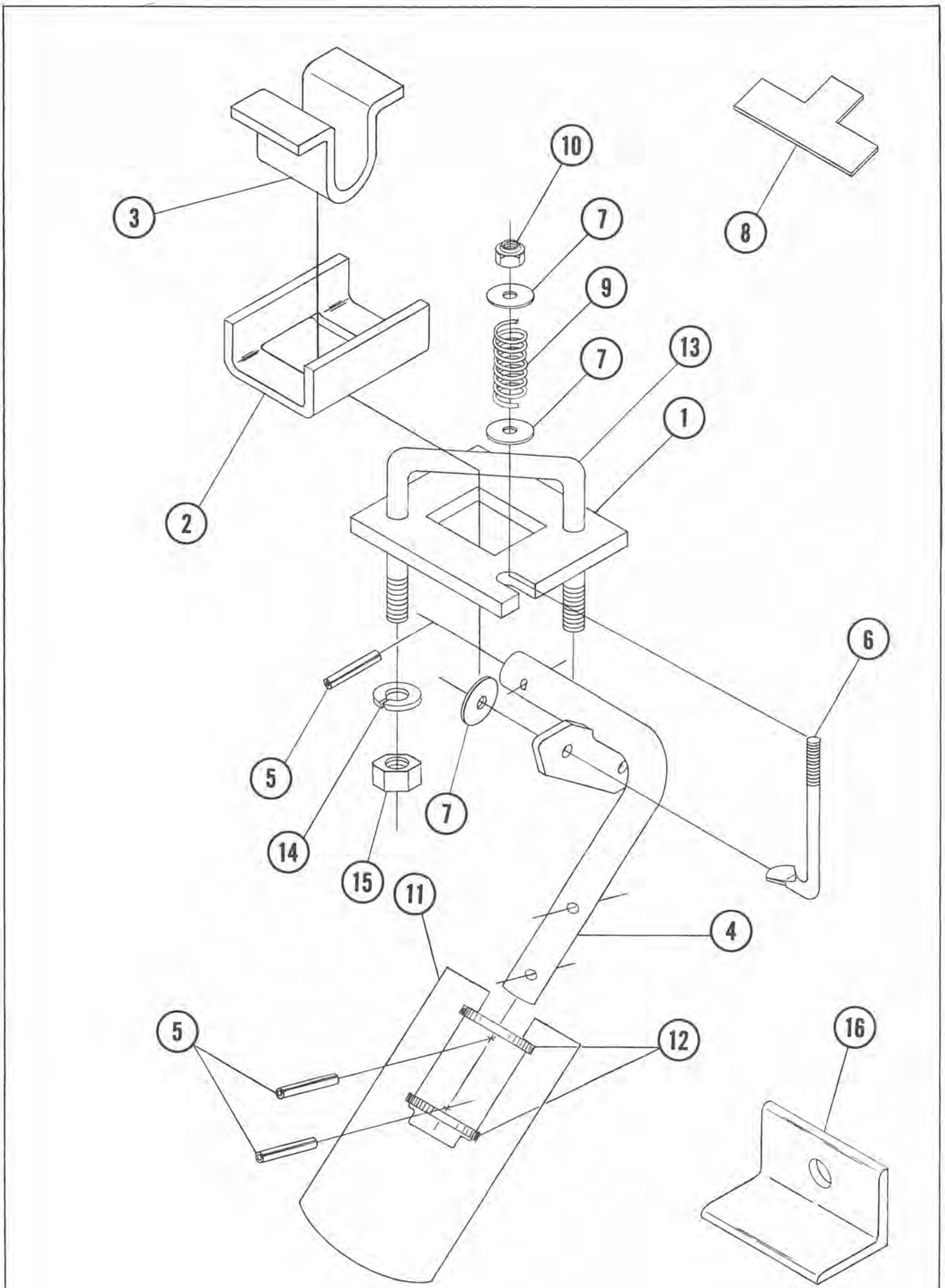


FOR MODELS WITH 24" DISC BLADES.

1/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	32-115	Left Rear - Right Front Scraper Blade	
2	32-114	Right Rear - Left Front Scraper Blade	
3	4907-186-3	Clamp	
4	61-145	U-Bolt	
5	1901-187-1	Scraper Bracket	
6	61-107	U-Bolt	
7	61-119	U-Bolt	
8	63-109	5/8NC Hex Nut	
9	64-109	5/8" STD. Lock Washer	
10	64-110	5/8" STD. Flat Washer	
11	64-107	1/2" STD. Lock Washer	
12	63-106	1/2NC Hex Nut	
*13		Scraper Frame	
14		Bracket Clip (See Rock Flex Bearing Arm Assembly on P16 for parts listing.)	

* Scraper Frame part number and length will be shown on the placement drawing page for your model.


10/81

SPRING LOADED SCRAPERS

FOR MODELS - ALL

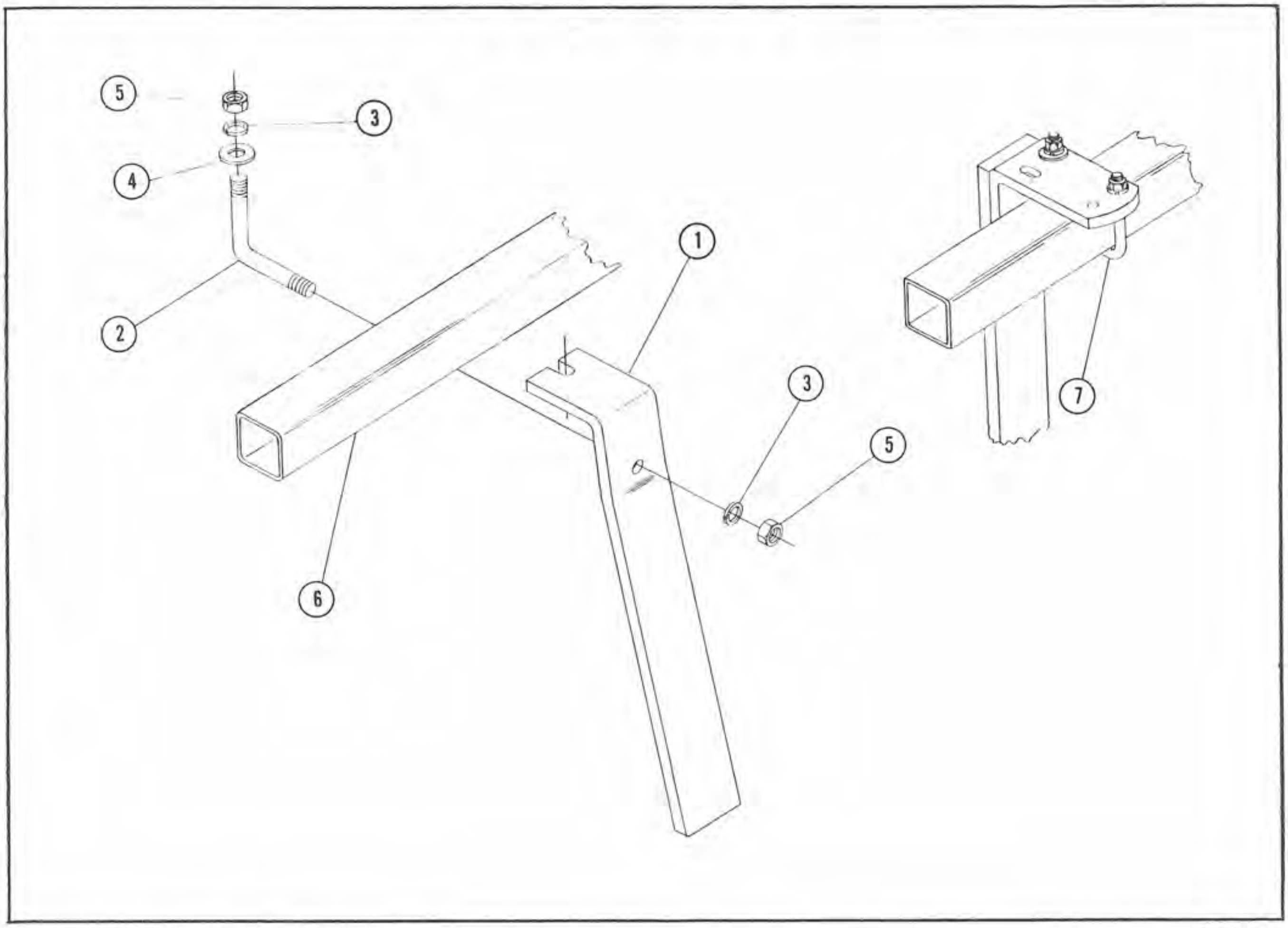
1/83

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
	2008-32-0	R.F. - L.R. Spring Scraper Assembly (SHOWN)	
	2008-31-0	L.F. - R.R. Spring Scraper Assembly	
1	2008-51-4	Mounting Bracket	1
2	32-109	Channel	1
3	32-108	Pivot Yoke	1
4	2008-33-0	Arm Weldment	1
5	60-610	5/16" Dia. X 1-1/2" Roll Pin	3
6	32-110	Adjustment Rod	1
7	64-102	5/16" STD. Flat Washer	3
*8	2008-091-3	Adjustment Wedge	1
9	76-120	Compression Spring	1
10	63-134	3/8NC Hex Nylon Top Lock Nut	1
11	32-112	Scraper Blade	1
12	32-107	Scraper Pivot Yoke	2
*13	61-121	U-Bolt	1
*14	64-107	1/2" STD. Lock Washer	2
*15	63-106	1/2NC Hex Nut	2
▲*16	2008-41-1	Spacer	1

* Not part of the assembly

▲ Used only in conjuntion with 1-3/4" scraper bars.

TRASH BARS



FOR MODELS - 4921 - 4938

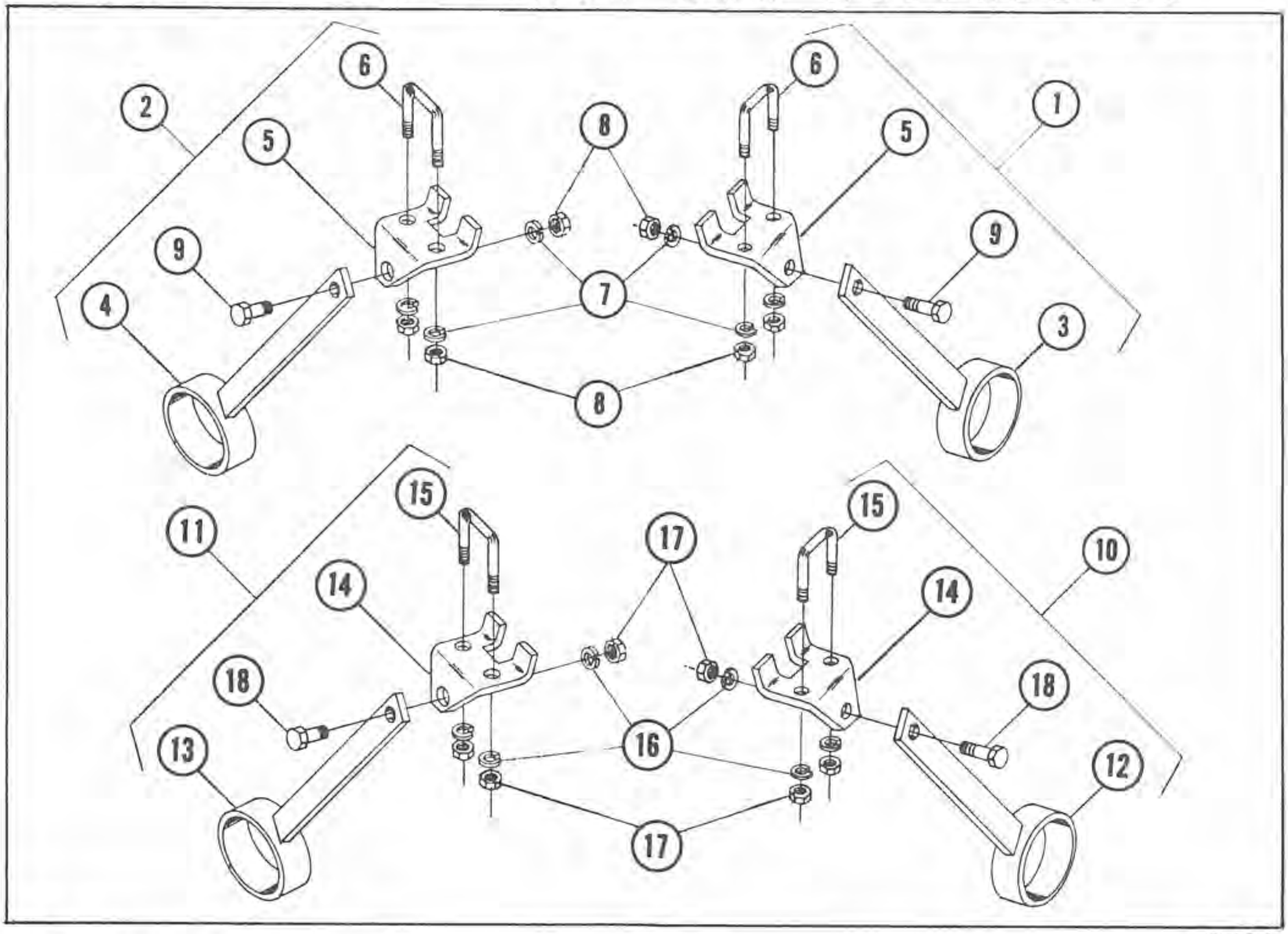
1/83

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	1965-236-0	Trash Bar Assembly	Specify
1	1965-236-1	Trash Bar	1
2	950-20-4	"L" Bolt	1
3	64-109	5/8" STD. Lock Washer	2
4	64-110	5/8" STD. Flat Washer	1
5	63-109	5/8NC Hex Nut	2
*6		Trash Bar Frame	
**7		Trash Bar Mounting Bracket	

* See Placement Page for your model for part number and length.

** See Bracket Clip parts listing on page P16

EXTENSION TRASH BAR ASSEMBLIES



FOR MODELS - ALL

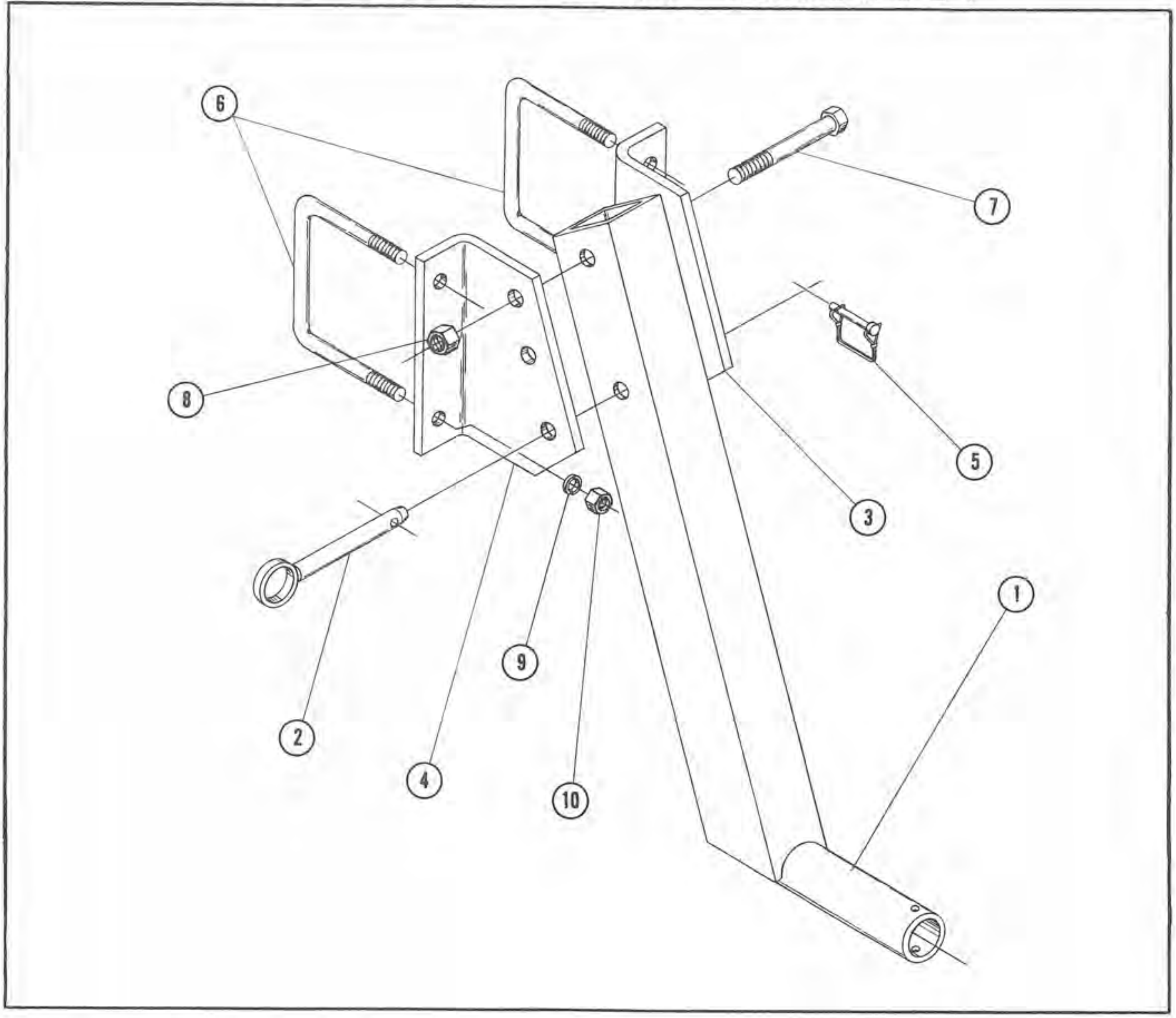
8/81

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
*1	960A-145-0	Right Extension Trash Bar Assembly	Specify
*2	960A-146-0	Left Extension Trash Bar Assembly	Specify
3	960-144-0A	Right Extension Trash Bar	1
4	960-143-0A	Left Extension Trash Bar	1
5	960A-145-1	Bracket	1
6	61-116	U-Bolt	1
7	64-109	5/8" STD. Lock Washer	3
8	63-109	5/8NC Hex Nut	3
9	62-168	5/8NC X 2" Cap Screw	1
▲10	2008-43-0	Right Extension Trash Bar Assembly	Specify
▲11	2008-44-0	Left Extension Trash Bar Assembly	Specify
12	960-144-0A	Right Extension Trash Bar	1
13	960-143-0A	Left Extension Trash Bar	1
14	2008-43-1	Bracket	1
15	61-119	U-Bolt	1
16	64-109	5/8" STD. Lock Washer	3
17	63-109	5/8NC Hex Nut	3
18	62-168	5/8NC X 2" Cap Screw	1

* Used On Units With Rigid Scrapers

▲ Used On Units With Spring Loaded Or Combination Scrapers

REAR JACK MOUNT ASSEMBLY

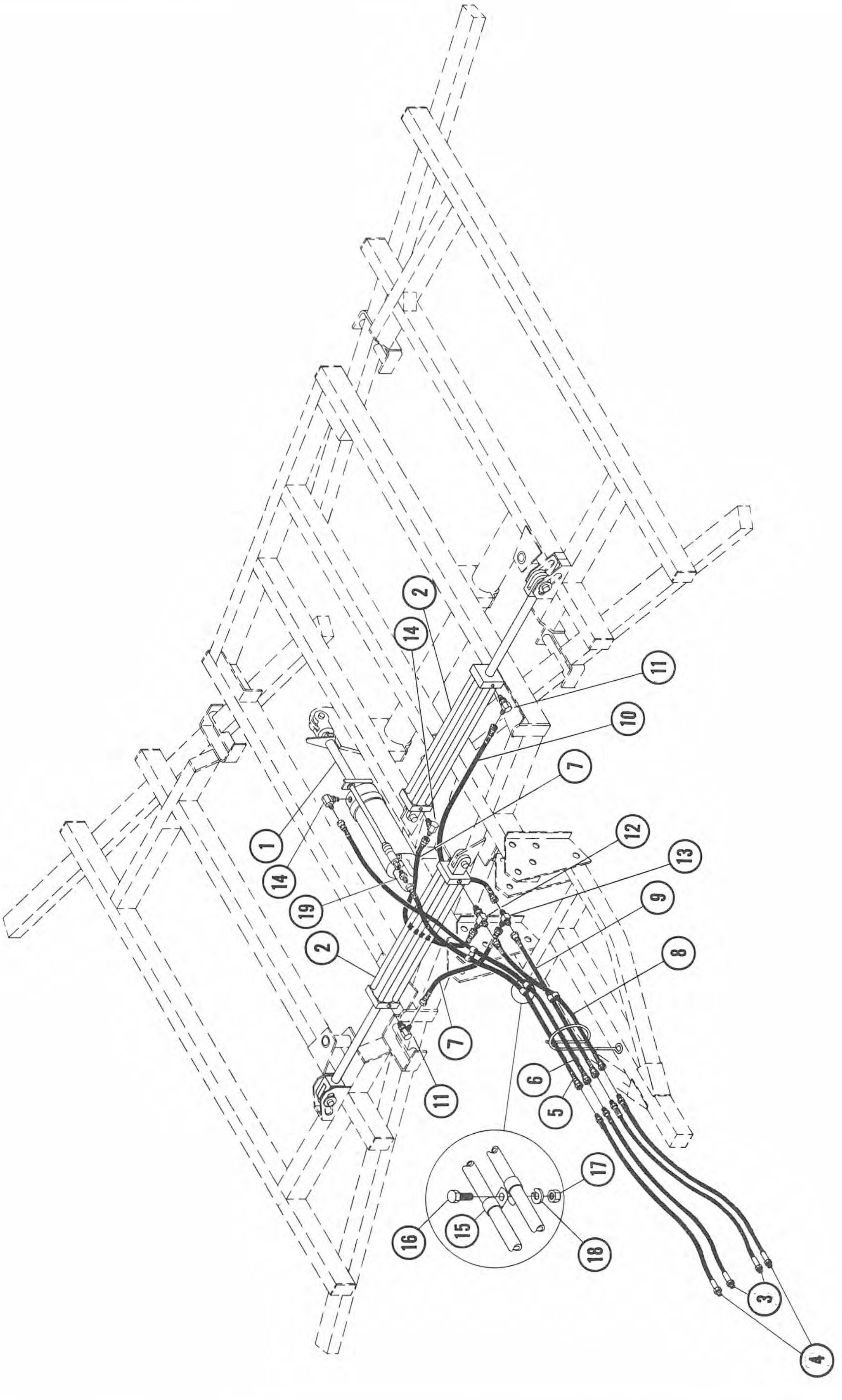


FOR MODELS - ALL

2/84

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
	4901-85-0	Rear Jack Mount Assembly	1
1	2330-86-0	Post Weldment	1
2	2330-87-0	Pin Assembly	1
3	2810-85-2	Right Bracket	1
4	2810-85-3	Left Bracket	1
5	60-103	P.T.O. Pin	1
6	61-107	U-Bolt	1
7	62-202	3/4NC X 4-1/2" Cap Screw	1
8	63-114	3/4NC Self Locking Nut	1
9	64-109	5/8" STD. Lock Washer	4
10	63-109	5/8NC Hex Nut	4

5/83



HYDRAULIC HOSE KIT (STANDARD PLUMBING)

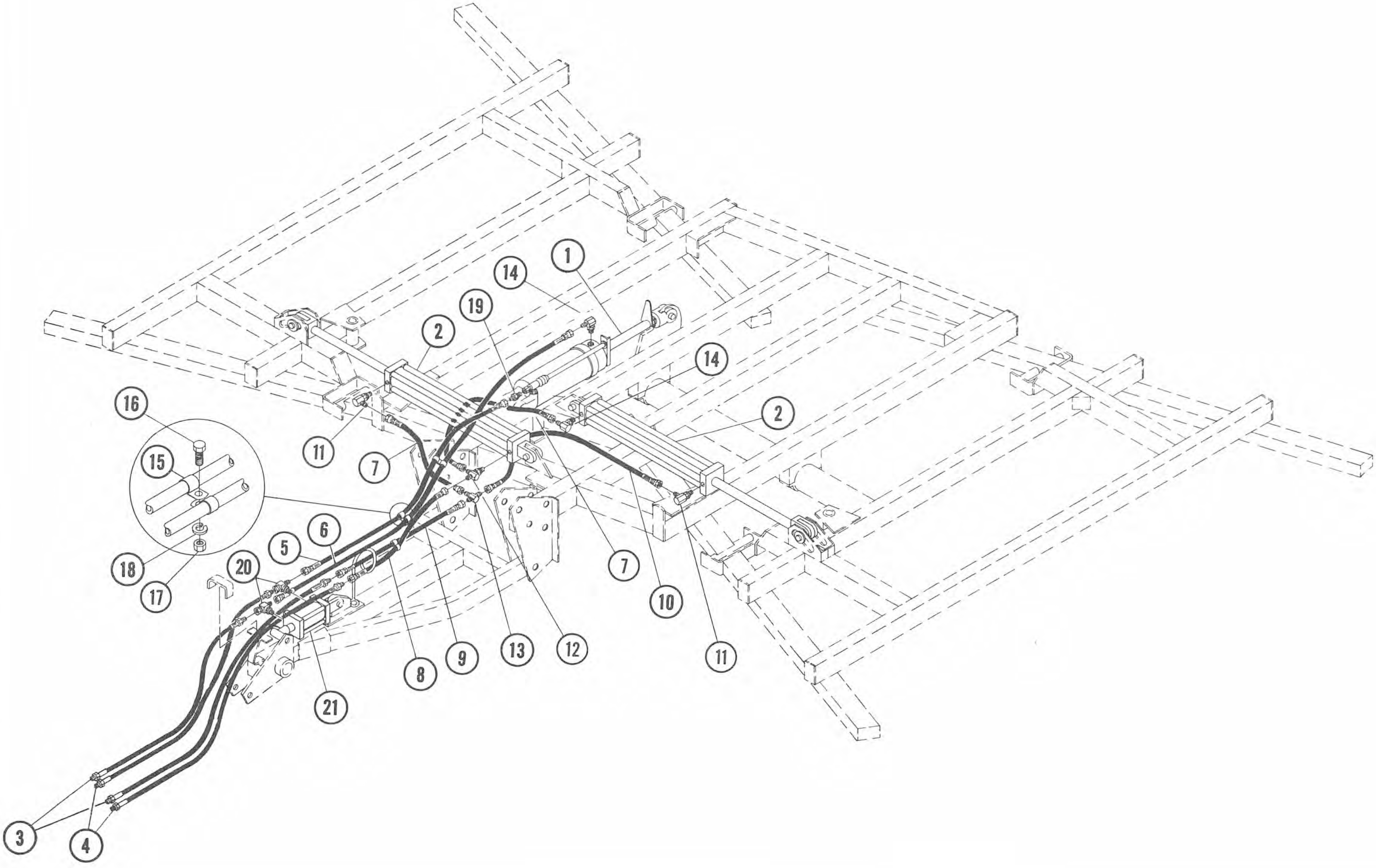
FOR MODELS - ALL

2/84

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
▲*1	22-100	Hydraulic Cylinder 4" X 16"	1
*2	21-107	Hydraulic Cylinder 4" X 32"	2
3	24-316	Hose 92" (YELLOW WIRE BRAID) 1/2" Dia.	2
4	24-315	Hose 92" (RED WIRE BRAID) 1/2" Dia.	2
5	24-310	Hose 74" (3/4" Swivel Both Ends) 1/2" Dia.	1
6	24-319	Hose 102" (3/4" Swivel Both Ends) 1/2" Dia.	1
7	24-243	Hose 32" (3/4" Swivel Both Ends)	2
8	24-208	Hose 65" (3/4" Swivel Both Ends)	1
9	24-205	Hose 55" (3/4" Swivel Both Ends)	1
10	24-239	Hose 46" (3/4" Swivel Both Ends)	1
11	25-305	O-Ring 37° Flare 90° Restrictor (Yellow Color)	2
12	25-302	O-Ring 37° Flare Service Tee	1
13	25-303	37° Flare Male Tee	1
14	25-301	O-Ring 37° Flare 90° Adapter	2
15	25-127	3/4" I.D. Hose Clamp	6
16	62-108	3/8NC X 1" Cap Screw	3
17	63-102	3/8NC Hex Nut	3
18	64-103	3/8" STD. Lock Washer	3
19	25-300	O-Ring 37° Flare Adapter	1

* Not part of hose kit.

▲ 22-100 4" X 16" Cylinder Assembly Consists of (1) 22-101 Cylinder Assembly, and (1) 22-200 Stroke Control Kit.



5/83

HYDRAULIC HOSE KIT WITH HYDRAULIC TONGUE

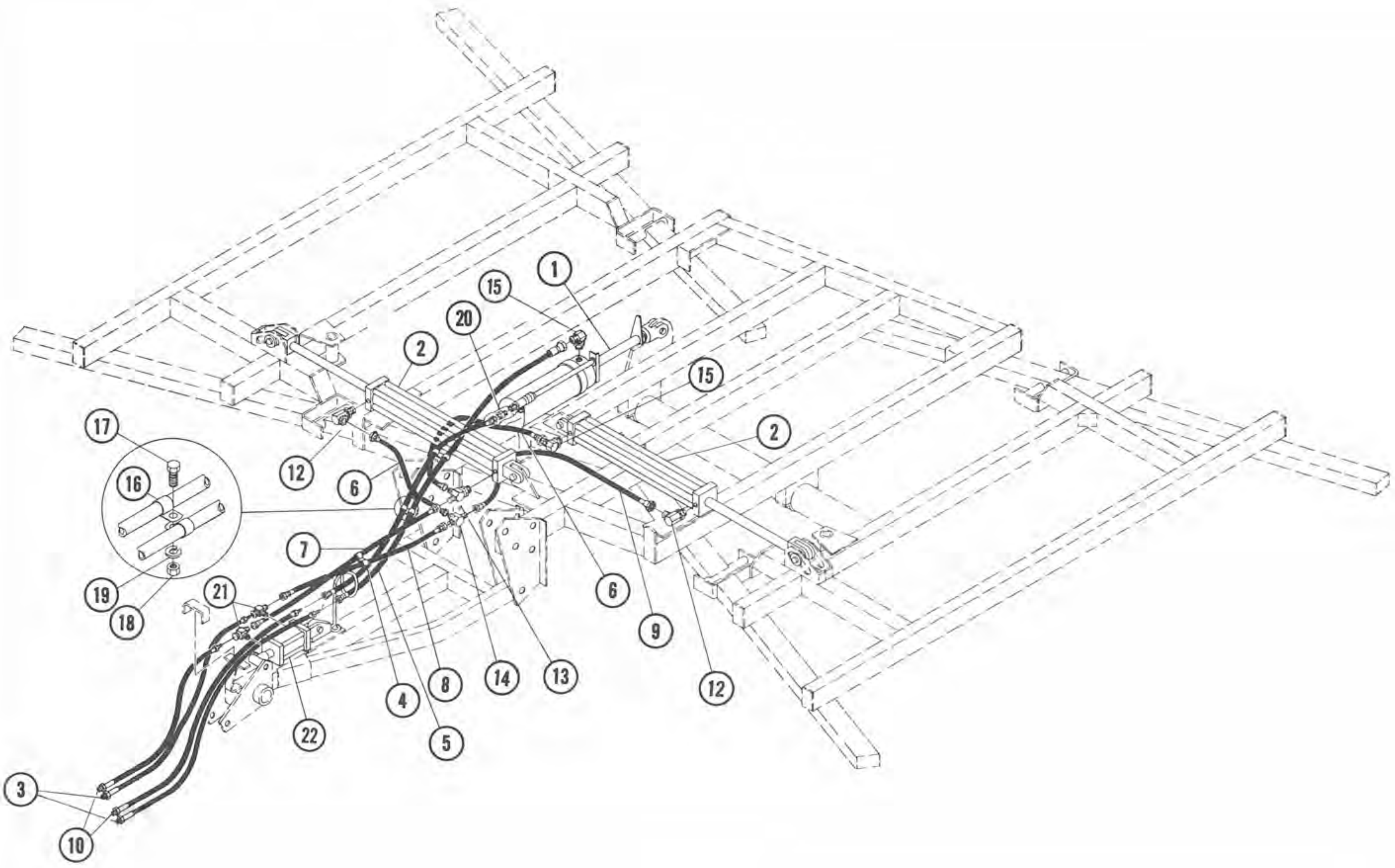
FOR MODELS - ALL

2/84

ITEM	PART NUMBER	PART DESCRIPTION	QUANTITY
▲ *1	22-100	Hydraulic Cylinder (4" X 16")	1
*2	21-107	Hydraulic Cylinder (4" X 32")	2
3	24-316	Hose 92" (YELLOW WIRE BRAID) 1/2" Dia	2
4	24-315	Hose 92" (RED WIRE BRAID) 1/2" Dia.	2
5	24-310	Hose 74" (3/4" Swivel Both Ends) 1/2" Dia	1
6	24-319	Hose 102" (3/4" Swivel Both Ends) 1/2" Dia	1
7	24-243	Hose 32" (3/4" Swivel Both Ends)	2
8	24-208	Hose 65" (3/4" Swivel Both Ends)	1
9	24-205	Hose 55" (3/4" Swivel Both Ends)	1
10	24-239	Hose 46" (3/4" Swivel Both Ends)	1
11	25-305	O-Ring 37° Flare 90° Restrictor (Yellow Color)	2
12	25-302	O-Ring 37° Flare Service Tee	1
13	25-303	37° Flare Male Tee	1
14	25-301	O-Ring 37° Flare 90° Adapter	2
15	25-127	3/4" I.D. Hose Clamp	6
16	62-108	3/8NC X 1" Cap Screw	3
17	63-102	3/8NC Hex Nut	3
18	64-103	3/8" STD. Lock Washer	3
19	25-300	O-Ring 37° Flare Adapter	1
20	25-315	O-Ring 37° Flare Male / Female Tee	2
*21	4901-90-0A	Tongue Leveling Cylinder Assembly	1

* Not part of hose kit.

▲ 22-100 4" X 16" Cylinder Assembly consists of (1) 22-101 Cylinder Assembly, and (1) 22-200 Stroke Control Kit.



5/83

HYDRAULIC HOSE KIT WITH HYDRAULIC TONGUE

(ALTERNATE PLUMBING)

FOR MODELS - ALL

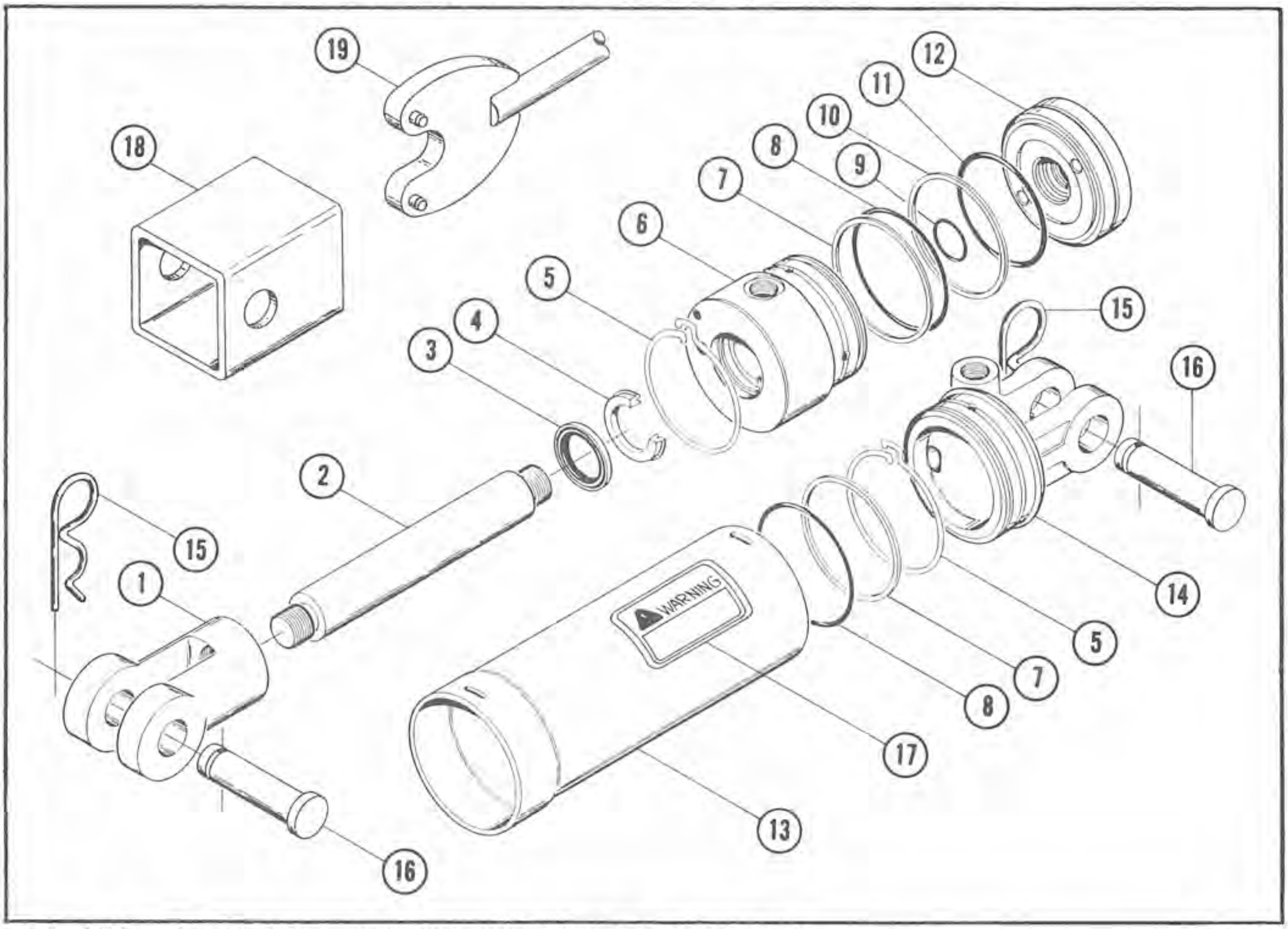
2/84

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
▲*1	22-100	Hydraulic Cylinder (4" X 16")	1
*2	21-107	Hydraulic Cylinder (4" X 32")	2
3	24-316	Hose 92" (YELLOW WIRE BRAID) 1/2" Dia	2
4	24-310	Hose 74" (3/4" Swivel Both Ends) 1/2" Dia	1
5	24-319	Hose 102" (3/4" Swivel Both Ends) 1/2" Dia	1
6	24-243	Hose 32" (3/4" Swivel Both Ends)	2
7	24-208	Hose 65" (3/4" Swivel Both Ends)	1
8	24-205	Hose 55" (3/4" Swivel Both Ends)	1
9	24-239	Hose 46" (3/4" Swivel Both Ends)	1
10	24-315	Hose 92" (RED WIRE BRAID) 1/2" Dia.	2
12	25-305	O-Ring 37° Flare 90° Restrictor (Yellow Color)	2
13	25-302	O-Ring 37° Flare Service Tee	1
14	25-303	37° Flare Male Tee	1
15	25-301	O-Ring 37° Flare 90° Adapter	2
16	25-127	3/4" I.D. Hose Clamp	6
17	62-108	3/8NC X 1" Cap Screw	3
18	63-102	3/8NC Hex Nut	3
19	64-103	3/8" STD. Lock Washer	3
20	25-300	O-Ring 37° Flare Adapter	1
21	25-315	O-Ring 37° Flare Male / Female Tee	2
*22	4901-90-0A	Tongue Leveling Cylinder Assembly	1

* Not part of hose kit.

▲ 22-100 Hydraulic Cylinder Assembly consists of (1) 22-101 4 X 16 Cylinder Assembly, and (1) 22-200 Stroke Control Kit.

CESSNA HYDRAULIC CYLINDER

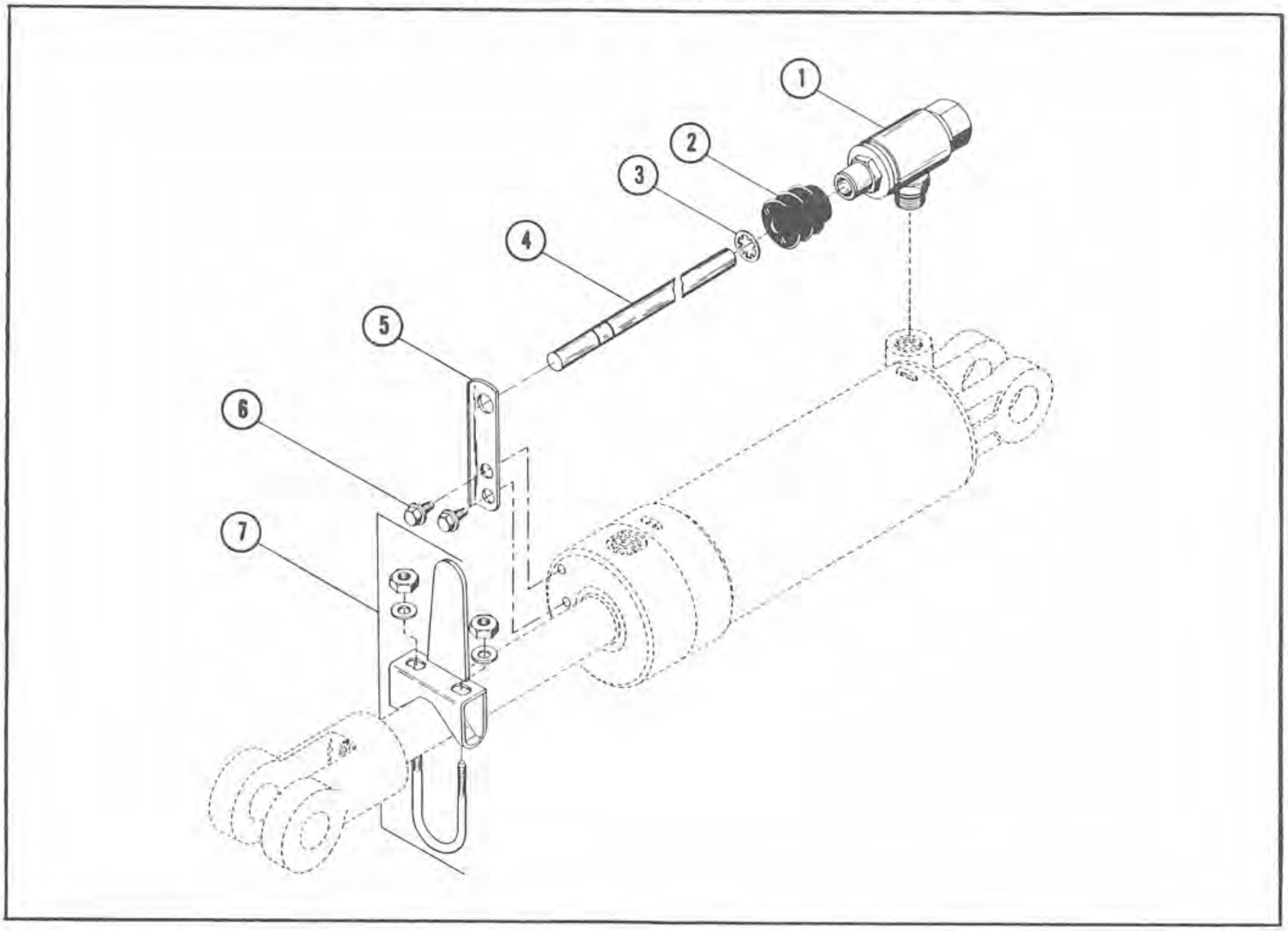


22-101 4" X 16" CESSNA HYDRAULIC CYLINDER 2/84

Retracted - 31-1/2" Stroke - 16" Extended - 47-1/2" Rod Diameter - 1-5/8"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	22-227	Rod End	1
2	22-228	Piston Rod	1
*3	22-216	Wiper Seal	1
*4	22-219	U-Cup Seal	1
*5	22-217	Lock Ring	2
6	22-230	Bearing	1
*7	22-215	Back-Up Washer	2
*8	22-213	O-Ring	2
*9	22-212	O-Ring	1
*10	22-218	Slipper Ring	1
*11	22-214	O-Ring	1
12	22-229	Piston	1
13	22-232	Barrel	1
14	22-231	Head	1
15	22-234	Spring Locking Pin	2
16	22-235	Upset Clevis Pin	2
17	74-113	Cylinder Warning Decal	1
	22-210	Seal Kit (* Items Included In Kit)	
	4901-79-0	Cessna Cylinder Tool Kit (For Repairs Only)	1
18	4901-79-1	Clevis Stop	1
19	4901-80-0	Spanner Wrench	1

STROKE CONTROL KIT

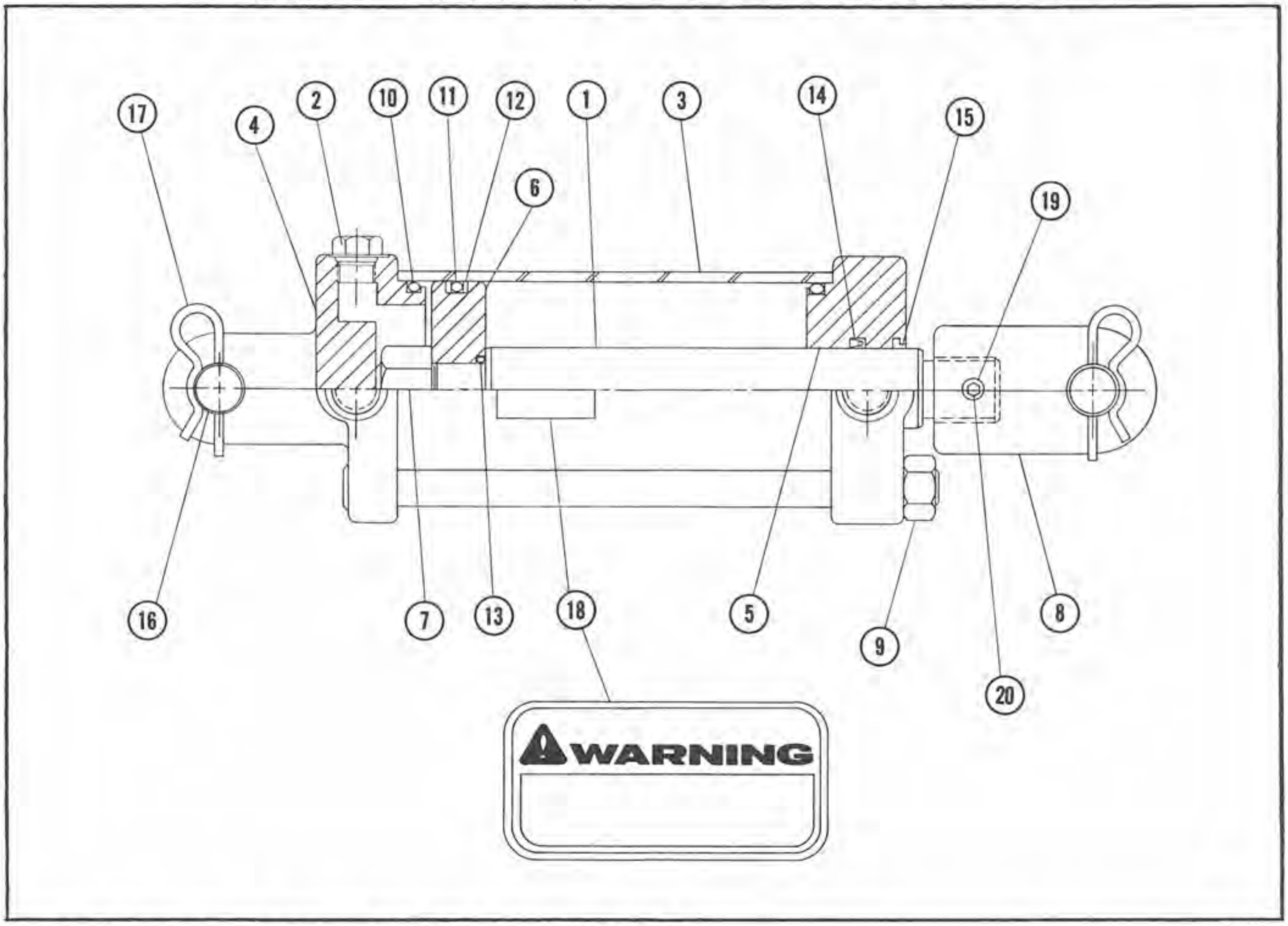


FOR MODELS - ALL

2/84

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
	22-200	Stroke Control Kit	1
*1	22-221	Stop Housing	1
2	22-220	Dust Seal	1
3	22-211	Retaining Ring	1
4	22-225	Push Rod	1
5	22-224	Guide	1
6	22-222	Self Tapping Screw	2
7	22-223	Stop Clamp Assembly	1
*	22-236	Seal Kit (For Stop Housing Repair)	
	22-211	Retaining Ring	1
	22-220	Dust Seal	1
	22-237	O-Ring	1
	22-238	O-Ring	1
	22-239	O-Ring	1

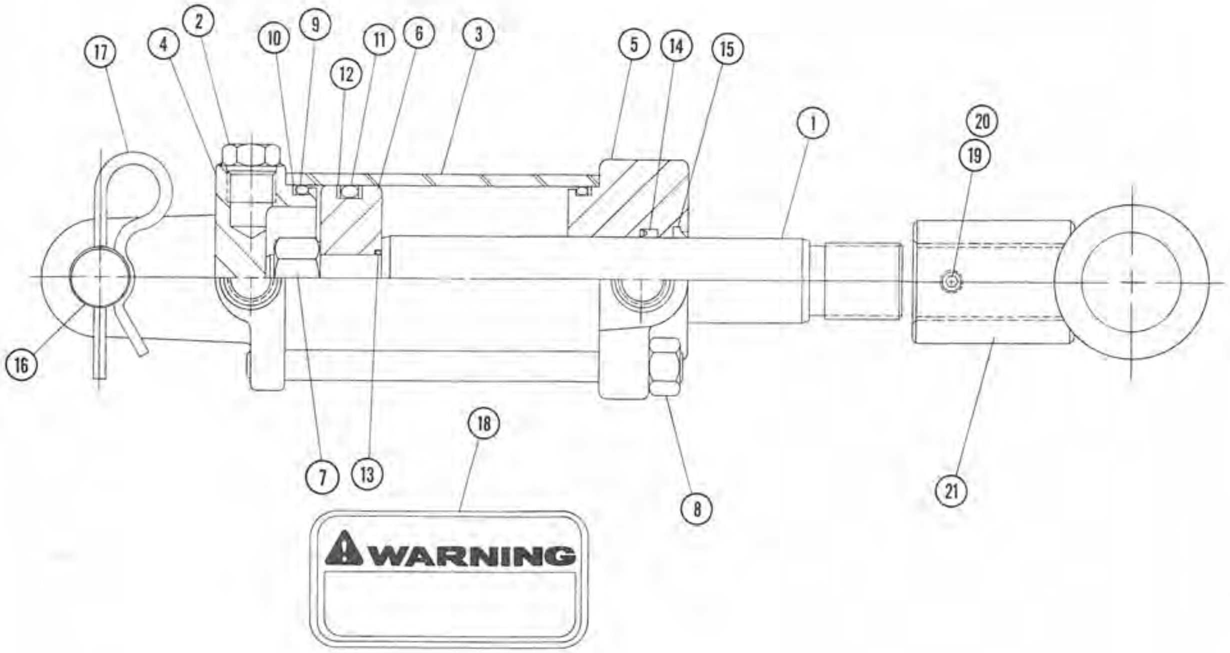
PRINCE HYDRAULIC CYLINDER



21-107 4" x 32" HYDRAULIC CYLINDER 5/83
Retracted - 42-3/4" Stroke - 32" Extended - 74-3/4" Rod - 1-1/2"

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	21-265	Piston Rod	1
2	21-404	#8 SAE Plug	1
3	21-266	Tube	1
4	21-283	Butt	1
5	21-223	Gland	1
6	21-224	Piston	1
7	21-225	Lock Nut	1
8	21-267	Clevis Assembly	1
9	21-268	Tie Rod	4
*10	21-289	O-Ring	2
*11	21-290	O-Ring	1
*12	21-291	Back-Up Washer	2
*13	21-228	O-Ring	1
*14	21-350	U-Cup	1
*15	21-231	Wiper	1
16	21-296	Clevis Pin	2
17	21-219	Hair Pin Clip	4
18	74-113	Cylinder Warning Decal	1
19	21-407	Nylon Clevis Lock Plug	1
20	62-310	3/8NF X 3/8" Allen Head Set Screw	1
	21-232	Seal Kit (* Items Contained In Kit)	

PRINCE HYDRAULIC CYLINDER

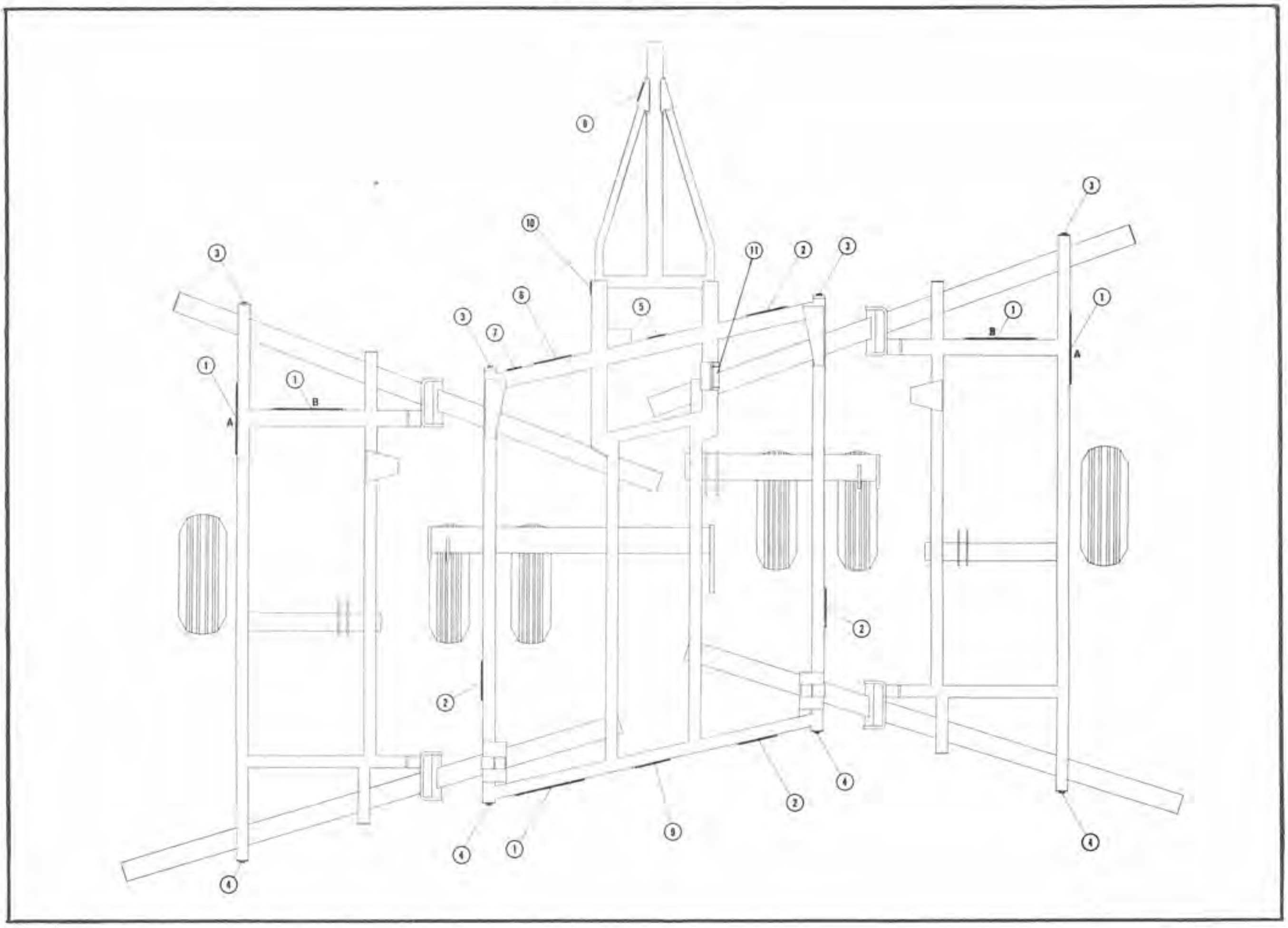


21-125 3" X 5" HYDRAULIC TONGUE LEVELING CYLINDER 2/84
Retracted - 17" Stroke - 5" Extended - 22" Rod - 1-3/8" DIA.

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
1	21-447	Piston Rod	1
2	21-404	#8 SAE Plug	1
3	21-448	Tube	1
4	21-364	Butt Casting	1
5	21-207	Gland Casting	1
6	21-208	Piston	1
7	21-209	Lock Nut	1
8	21-449	Tie Rod	4
*9	21-212	O-Ring	2
*10	21-217	Back-Up Washer	2
*11	21-213	O-Ring	1
*12	21-214	Back-Up Washer	2
*13	21-215	O-Ring	1
*14	21-351	U-Cup	1
*15	21-218	Wiper	1
16	21-376	Clevis Pin	1
17	21-219	Hair Pin Clip	1
18	74-113	Cylinder Warning Decal	1
19	21-407	Nylon Clevis Lock Plug	1
20	62-310	3/8NF X 3/8" Allen Head Set Screw	1
	21-220	Seal Kit (* Items Included In Kit)	

	4901-90-0A	Tongue Leveling Cylinder Assembly	1
	21-125	3" X 5" Hydraulic Cylinder Assembly	1
21	4901-88-0	Cylinder Pivot Weldment	1

DECALS



FOR MODELS - ALL

2/84

ITEM	*PART NUMBER*	*PART DESCRIPTION*	*QUANTITY*
*1	74-100	Krause Decal	3
2	74-102	DANGER Stand Clear Of Wing Decal	4
3	74-107	Amber Reflector	4
4	74-108	Red Reflector	4
5	74-115	Name Plate	1
6	74-117	Implement Safety Decal	1
7	74-121	CAUTION Width - Height Decal	1
8	74-128	Patent Decal	1
9	74-148	4900 Series Decal	1
10	74-155	Adjustment Screw Decal	1
11	74-163	Parking Lock Decal	1

* NOTE: 74-100 KRAUSE Decal locations (A) on 4901-18-0 & 4901-20-0 wing frames only and locations (B) on 4904-18-0, 4904-20-0, 4907-18-0 & 4907-20-0 wing frames only.

ASSEMBLY SECTION

THE FOLLOWING SECTION ILLUSTRATES A GENERAL METHOD FOR THE ASSEMBLY OF THIS SERIES KRAUSE TILLAGE TOOL. YOU MUST KNOW THE MODEL NUMBER OF THE UNIT BEING ASSEMBLED WHENEVER MAKING REFERENCE TO THIS SECTION. THE FOLLOWING PICTURES AND DRAWINGS WILL SHOW BOLTS, PINS, NUTS AND ETC., WITH THE DESCRIPTIVE SIZE AND LENGTHS IN THE ACCOMPANYING PARAGRAPH AND A PARTS LISTING REFERENCE PAGE NUMBER. IF ANY DIFFICULTY SHOULD BE ENCOUNTERED DURING THE ASSEMBLY, RECHECK THE ILLUSTRATIONS, ASSEMBLY STEPS AND PART LIST DRAWINGS.

PROPER BOLT USE

OVER TORQUED BOLTS is probably one of the most frequent causes for bolt breakages. MAXIMUM TIGHTNESS DOES NOT MEAN MAXIMUM STRENGTH. A bolt in a stretched condition due to over torsioning is more subject to failure under a heavy load or shock than a bolt that is correctly tightened. Torque hand wrench or torque adjustable impact wrenches should be used. If standard wrenches are used, try to refrain from using "cheater bars." Cheater bars increase the risk of over torsioning. When torqued properly, bolts and their joining members will give longer, more satisfying service.

The following table lists the torque requirements for bolts with coarse threads. Torque values for plated or oiled bolts are unpredictable due to the lubricating effect and require slightly less torque than black bolts.

RECOMMENDED TORQUE VALUES IN FOOT POUNDS

For S.A.E. Grade 2 and Grade 5 coarse thread cap screws and bolts shown are suggested MAXIMUM for fasteners, carrying only the residue oil of the manufacturer.

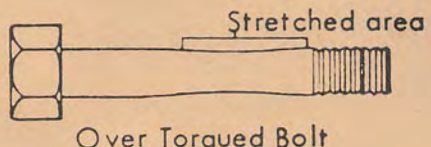
BOLT SIZE	BLACK BOLTS GRADE 2		PLATED or OILED BOLTS GRADE 2	
	GRADE 2	GRADE 5	GRADE 2	GRADE 5
3/8"	19	32	16	24
7/16"	30	50	24	40
1/2"	45	72	34	58
5/8"	86	150	63	118
3/4"	150	250	120	200
7/8"	140	360	105	280
1"	220	560	175	450
1-1/8"	260	700	205	560
1-1/4"	380	980	300	780
1-1/2"	530	1200	460	960

TIE ROD TIGHTENING TORQUE

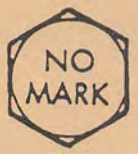
1-1/2" Dia. Rods ______________ 600 Ft. Lbs

1-3/4" Dia. Rods ______________ 800 Ft. Lbs

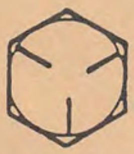
2" Dia. Rods ______________ 1200 Ft. Lbs



Over Torqued Bolt



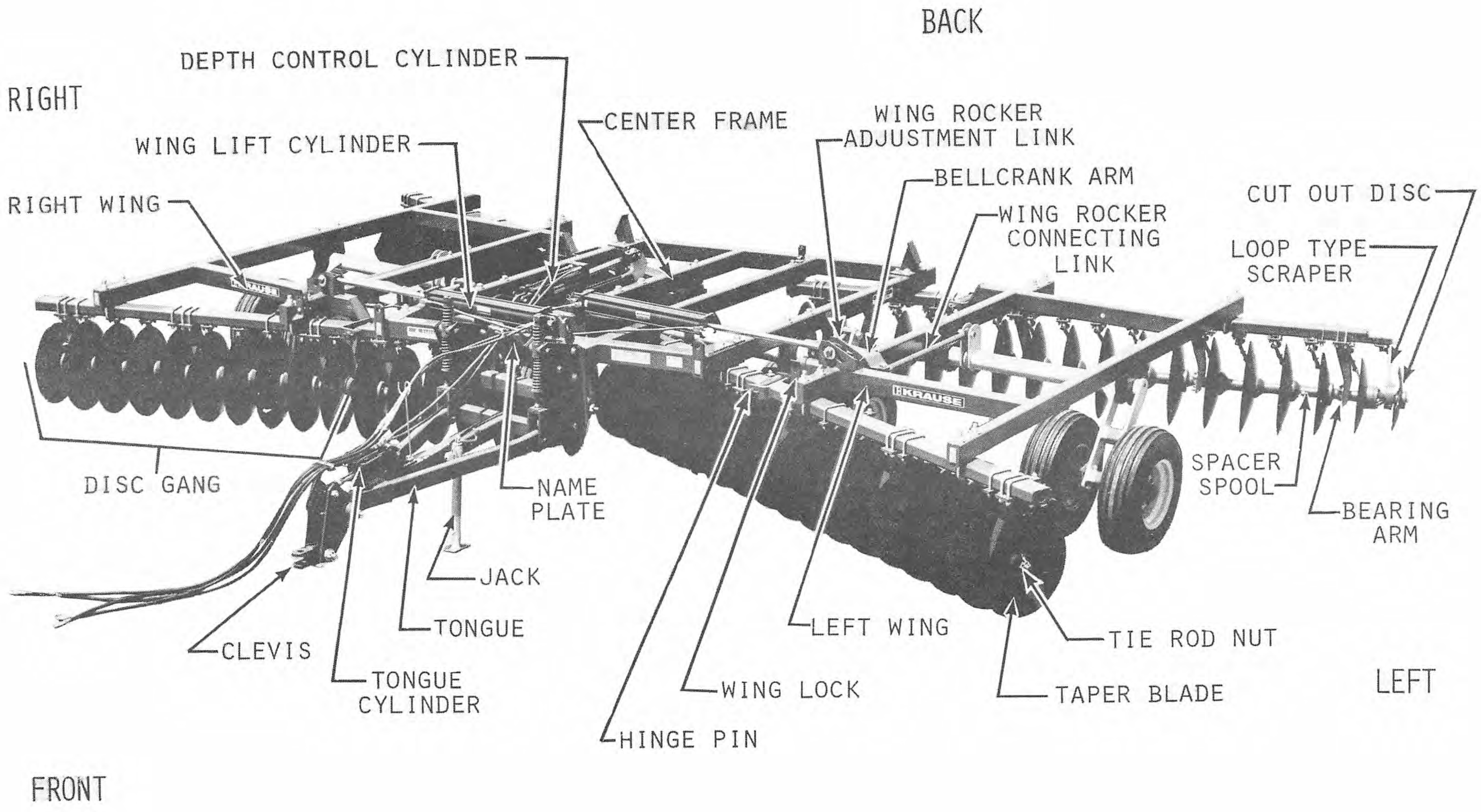
SAE GRADE 2



SAE GRADE 5

Incorrect use of GRADED bolts is another problem. Generally two grades are used on Krause tools, Grade 2 and Grade 5. Grade 2 bolts are used in low stress areas or for shear bolts to protect more expensive parts. Grade 5 bolts are approximately 60-150% stronger than Grade 2 and are used in higher stress areas. It is very important that these bolts are used in the proper locations as recommended

NOTES


BACK
DEPTH CONTROL CYLINDER
RIGHT
CENTER FRAME
WING ROCKER ADJUSTMENT LINK
WING LIFT CYLINDER
BELLCRANK ARM
RIGHT WING
CUT OUT DISC
WING ROCKER CONNECTING LINK
LOOP TYPE SCRAPER
KRAUSE
DISC GANG
NAME PLATE
SPACER SPOOL
BEARING ARM
JACK
TONGUE
LEFT WING
TIE ROD NUT
CLEVIS
TONGUE CYLINDER
WING LOCK
TAPER BLADE
LEFT
HINGE PIN
FRONT

ASSEMBLY

STUDY THE NAMES AND LOCATIONS OF THE PARTS AND FAMILIARIZE YOURSELF WITH THE TANDEM BEFORE STARTING THE ASSEMBLY. READING THE STEP BY STEP INSTRUCTIONS THAT FOLLOW WILL BE HELPFUL.

SAFETY

READ ALL THE SAFETY NOTATIONS IN THE ASSEMBLY INSTRUCTIONS FOR YOUR OWN PROTECTION. ACCIDENTS CAN BE PREVENTED BY RECOGNIZING THE CAUSE OF AN ACCIDENT BEFORE IT CAN HAPPEN.

ASSEMBLY

Select an area for the assembly that will be large enough to accommodate the completed tandem. The surface of the work area should be as level as possible. Use the proper hand tools to insure proper bolt tightness. Refer to the page titled "Proper Bolt Use" for the recommended torque values for different size bolts.

PART LOCATIONS

FRONT - The front of the frame can be determined by the location of the name plate that has been attached to the center front frame member.

RIGHT and LEFT - sides can be established by standing behind the frame and looking toward the front, or the direction of travel.

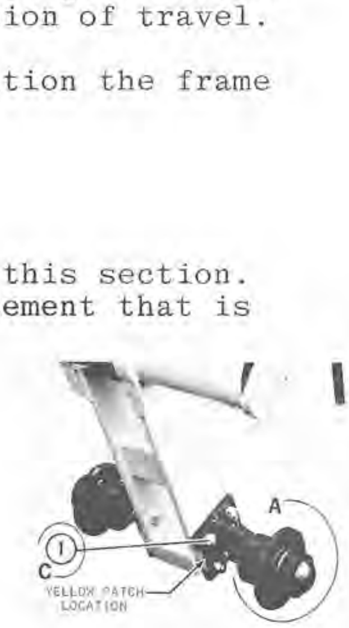
TOP - to be sure the frame is right side up, position the frame with the cylinder lugs on the top.

ASSEMBLY STEPS

Assemble the harrow following the steps shown in this section. Each step for the part attachment reflects a statement that is accompanied with a picture.
The parts are named in the picture A . The bolts and attaching hardware B are keyed together with numbers C .

STEP 1. B

Using 3/4NC X 2-1/2" Cap Screws ①, bolt the hub assembly to wheel arm. NOTE the location of the yellow patch on the edge of the bolt mounting plate.

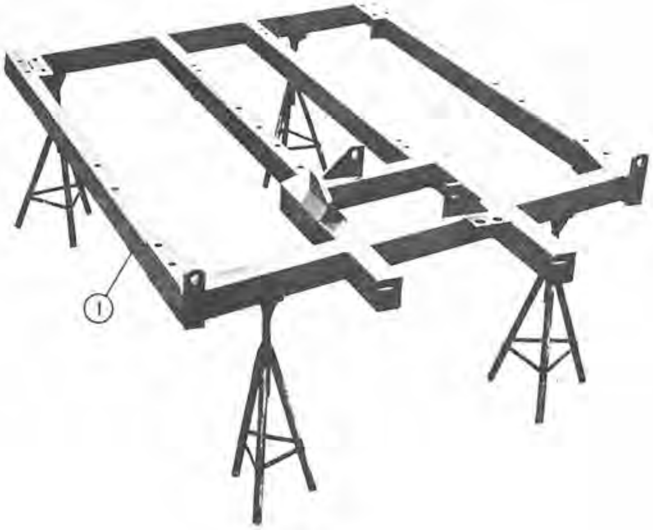


MODEL NUMBER

Know the model number of the harrow being assembled. Use the model number whenever referring to the assembly, parts listing pages or placement drawings. The number is stamped on the Name Plate located on the front frame member.

I. CENTER FRAME, ROCKER SHAFT AND WHEELS

1. Place the center frame on stands approximately 30" high in the center of the assembly area, facing a direction that will permit future hitching to tractor.

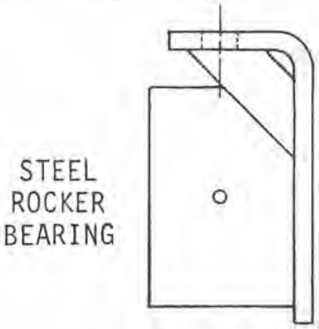


NOTE: The stands will be required to support the frame, rocker and tongue that will weigh approximately 2,000 lbs. before the tool will be self supporting.

WARNING: ALWAYS ATTACH CABLES AND CHAINS SECURELY. THE SUDDEN RELEASE OF A CABLE OR CHAIN UNDER TENSION CAN CAUSE INJURY TO PERSONS STANDING NEARBY.

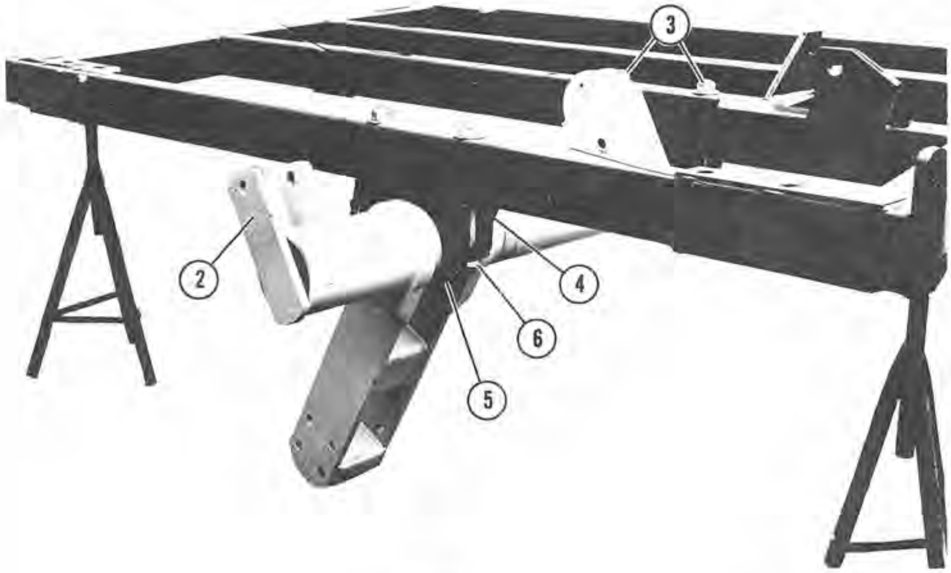
2. Position the right center rocker shaft under the frame. Make sure the wheel arms point to the rear and the lift lugs are on top as shown in the photograph below.

3. Fasten the steel rocker bearing (Part # 4901-52-0) to the inside frame beam with TWO 1NC X 7" Cap Screws, Flat Washers and Self Locking Nuts.

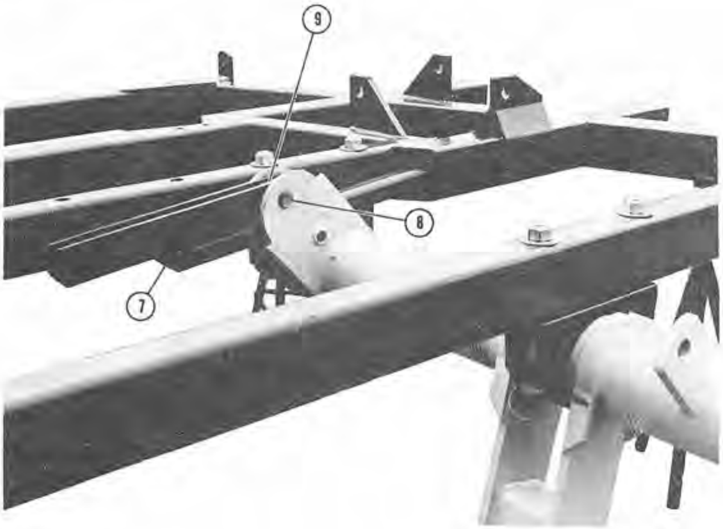


4. Screw a 45° grease zerk into the rocker shaft clamp casting and a standard zerk into the shank clamp strap.

   Place the rocker shaft casting (Part #4901-0-10) on top of the rocker shaft with the cast flange toward the center of the frame.

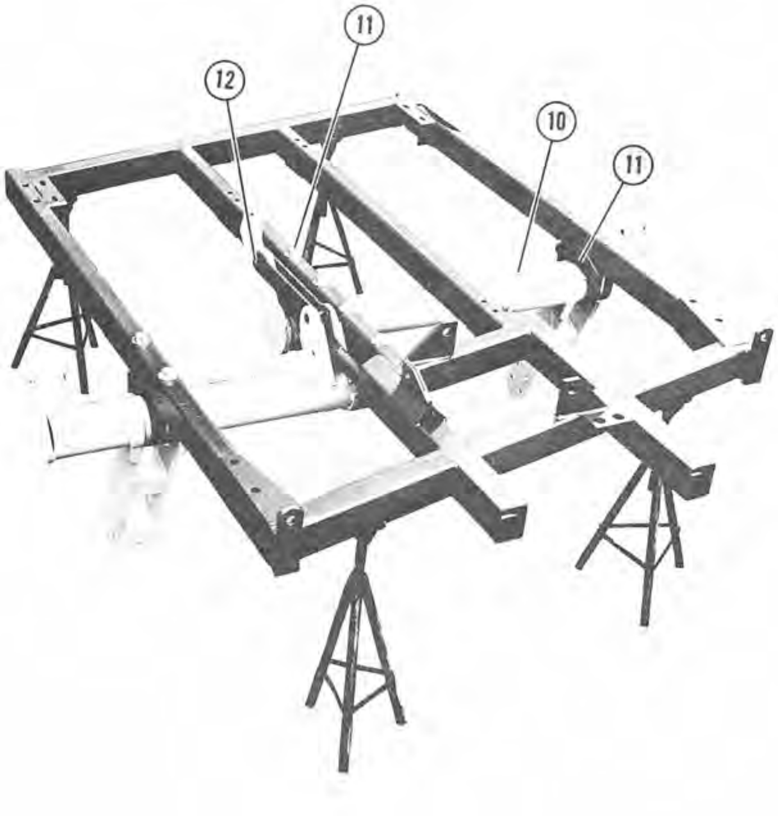


5. Place the lower rocker shaft clamp straps below the casting.
6. Use TWO 1NC X 11" Machine Bolts, Flat Washers, and Self Locking Nuts to fasten the rocker shaft clamps to the frame.
7. Slide the connecting link and road lock assembly between the rocker lug plates and into open end of the center frame beam as shown in the photograph below.
8. Insert the pin (Part # 4901-0-5) through the rocker lug and connecting link.
9. Retain the pin in place with a 3/8" DIA. X 3" Roll Pin.

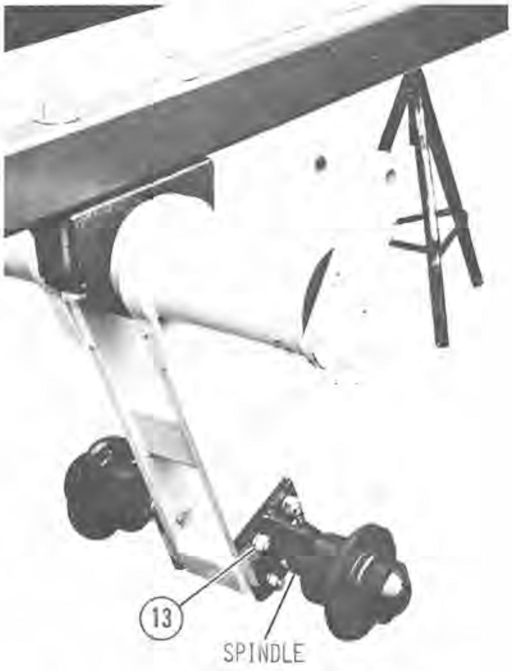


10. Position the left center rocker shaft under the frame. Make sure the wheel arms point to the rear and the lift lugs are on top as shown below.
11. Repeat STEPS 4 through 6 to assemble the left center rocker shaft to the frame.

    (NOTE: The left rocker uses TWO cast rocker bearings.)
12. Fasten the center connecting link to the left center rocker lug with a (Part # 4901-47-0) Connector Pin Assembly and a 3/16" DIA. X 2" Cotter Pin.

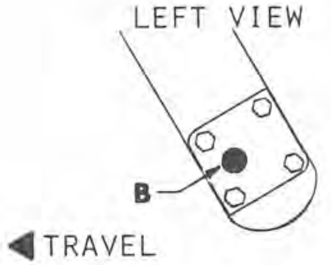


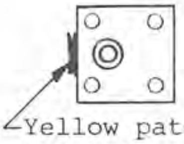
13. NOTE that the spindles are off-center and must be attached uniformly on the unit as shown below. If dual wheels are to be attached, be sure to position the hub on the wheel arm by the spindle location and not the gusset locations. Bolt all hubs to the wheel arms with 3/4NC X 2-1/2" Cap Screws. Remove the wheel bolts after hub attachment.



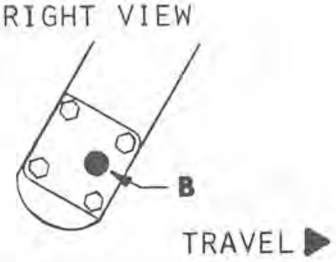
NOTE: Optional 2135-17-0 Heavy Duty Hub is attached in CENTER SECTION.

Use spindle location (B) for 9.5L or 11L Tires.





Yellow patch indicates spindle side.

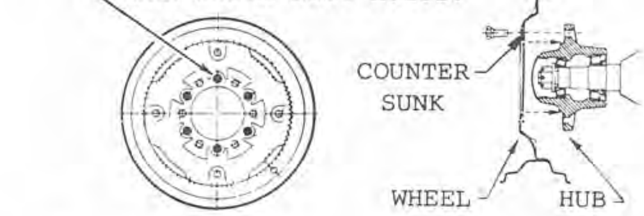


14. With wheel bolts removed, attach the wheel and tire assemblies to the hubs as shown on page A6. Secure the wheels to the hub with the wheel bolts and torque them from 90 to 95 Ft. Lbs. DO NOT OVER-TIGHTEN.

IMPORTANT: BEFORE LOWERING THE TIRES TO THE GROUND, CHECK THE HUBS FOR EXCESSIVE END PLAY. IF NECESSARY, ADJUST WHEEL HUB AT THIS TIME IN ASSEMBLY.

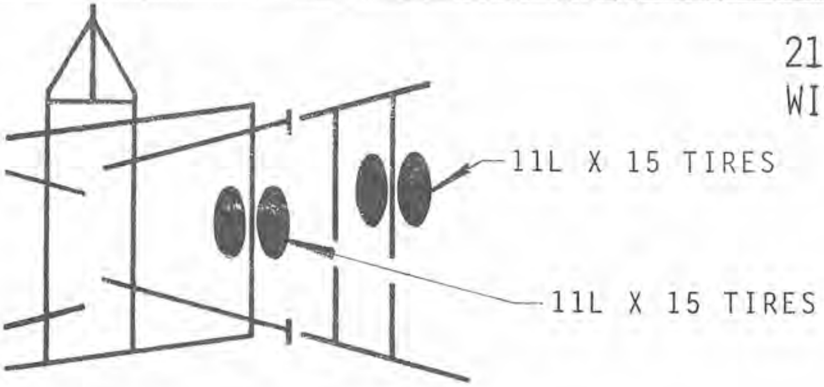
DO NOT ALLOW DIRT AND DUST TO ENTER THE HUBS. DIRT IN HUBS MAY RESULT IN BEARING FAILURE DURING OPERATION.

ALWAYS bolt the wheel to the hub thru the COUNTER SUNK wheel bolt holes.

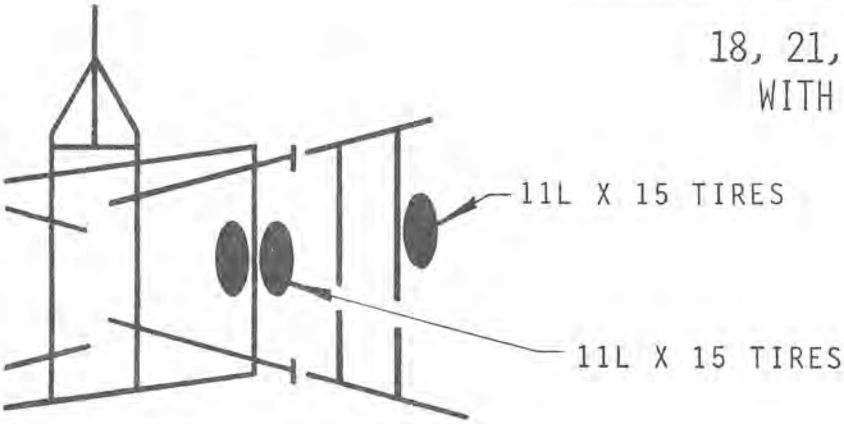


WHEEL & TIRE ASSEMBLY LOCATIONS

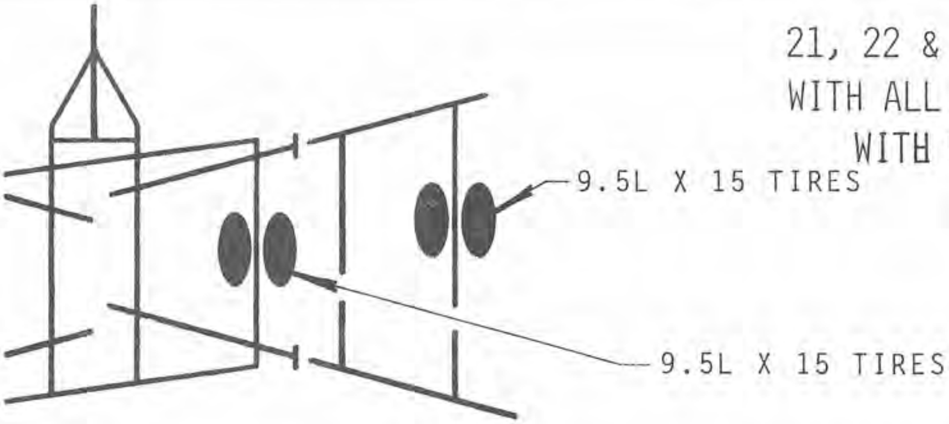
21, 22 & 25 FT. MODELS
WITH ALL WHEELS DUALED
WITH 11L TIRES



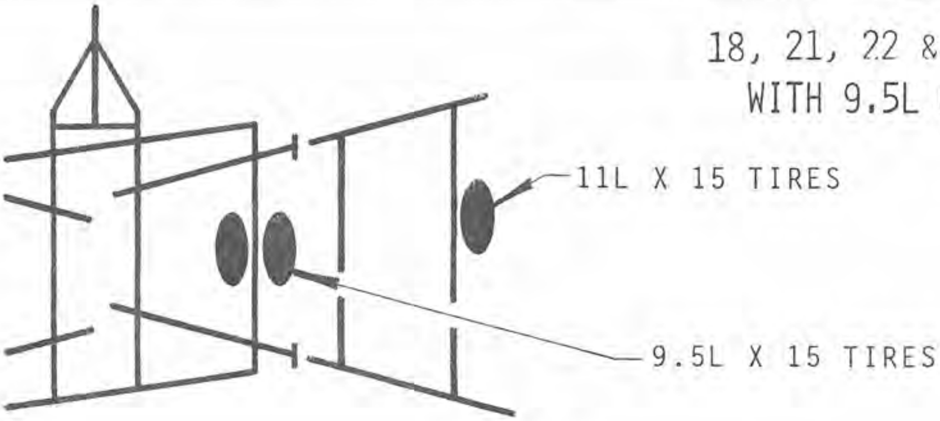
18, 21, 22 & 25 FT. MODELS
WITH 11L CENTER DUALS



21, 22 & 25 FT. MODELS
WITH ALL WHEELS DUALED
WITH 9.5L TIRES



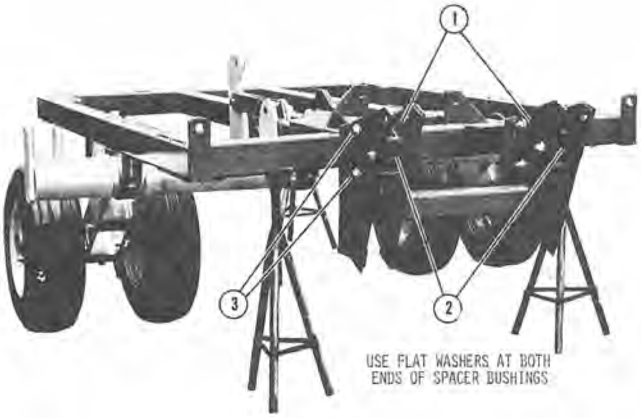
18, 21, 22 & 25 FT. MODELS
WITH 9.5L CENTER DUALS



II. TONGUE ASSEMBLY

1. Slide the hitch weldment (Part # 4901-70-0) onto the two front center frame beams as shown to the right.

2. Insert a SPACER BUSHING (Part # 4901-0-9) through the hitch weldment and center frame beams at each of the two locations shown. Secure each in place with a 3/4NC X 6-1/2" Cap Screw, (2) Flat Washers and a 3/4NC Self Locking Nut.



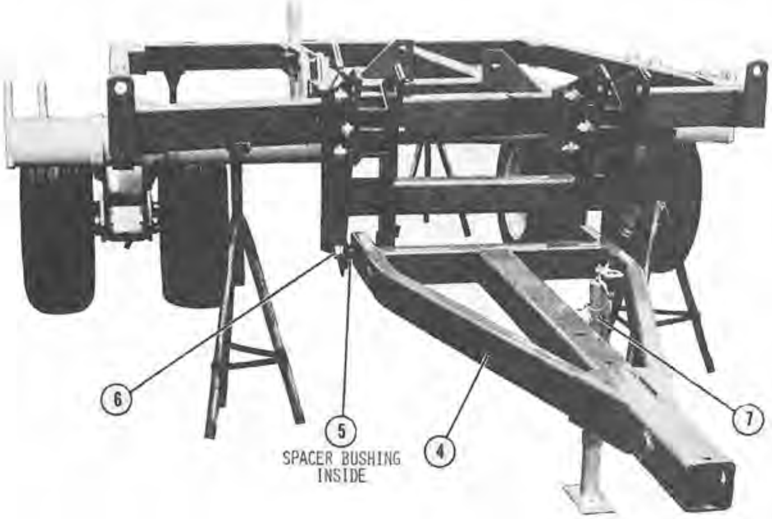
3. Insert SPACER BUSHINGS (Part # 4901-0-9) above and below the center frame beams and secure them in place with 3/4NC X 6-1/2" Cap Screws, Flat Washers and Self Locking Nuts. NOTE: Use flat washers at both ends of spacer bushing.

4. Position the tongue weldment (Part # 4901-30-0) below the hitch weldment.

5. Insert bushing (Part # 4901-0-8) into the back holes of the tongue weldment.

6. Raise the tongue weldment until the holes align in the hitch. The bushings should slide up into slotted tabs. Bolt the tongue to the hitch with 1NC X 6-1/2" GRADE 5 Cap Screws, Lock Washers and Hex Nuts.

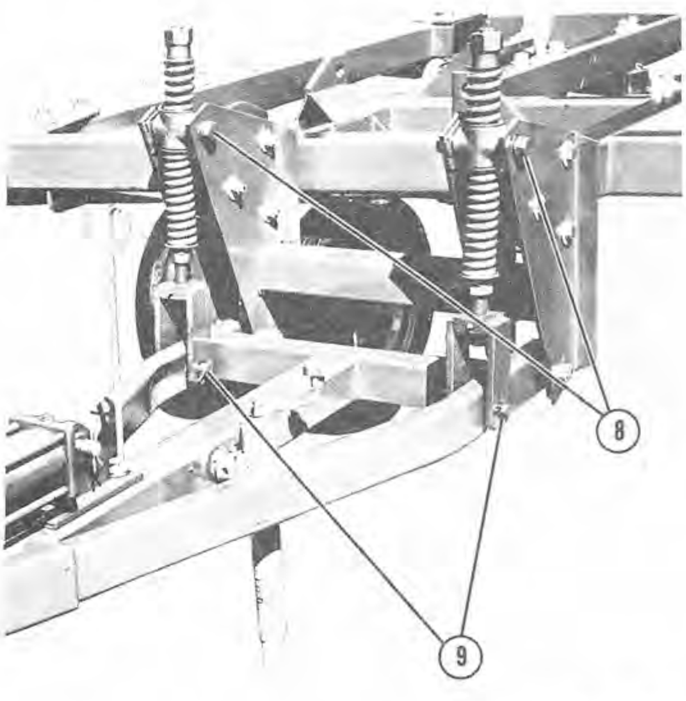
7. Attach the Jack Assembly to the tongue in the standing position.

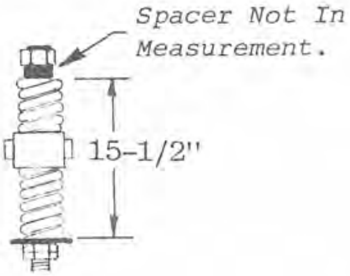


8. Remove the 1NC X 2-1/2" Cap Screws and spacers from the Adjustment Screw Assemblies and reassemble them through the hitch plates.

9. Remove the lower clevis pin and attach the clevis to the tongue.

10. Both tongue adjustment screws must have the same spring tension. Check both adjustment screws to be sure they have a dimension of 15-1/2" as shown at the right. The assemblies are shipped with a spacer for high drawbar clevis hitching, and the 15-1/2" dimension will be from the flat washer to the bottom of the spacer. If the drawbar is to be changed to the lower position, remove the spacer from both assemblies, and adjust the springs to 15-1/2" between the flat washers and the bottom of the screw nut on top.



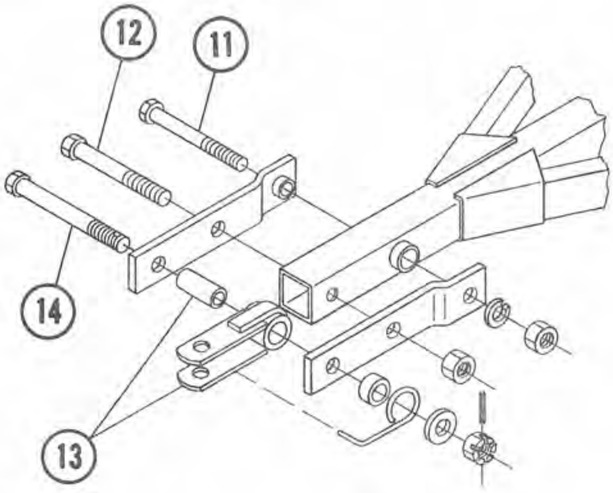


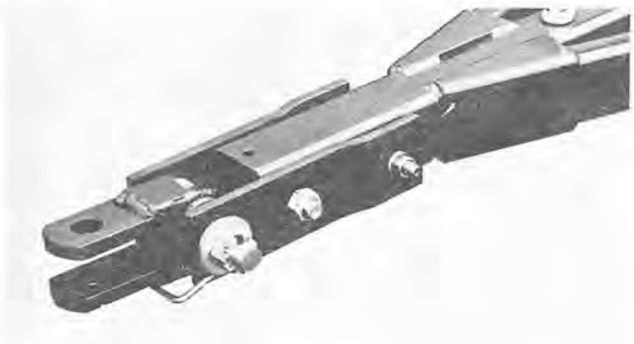
11. Bolt the side plates to the tongue with a 3/4NC X 7" Cap Screw, Lock Washer and Hex Nut.

12. Use a 1NC X 6-1/2" GRADE 5 Cap Screw and Self Locking Nut through the center hole of the side plates.

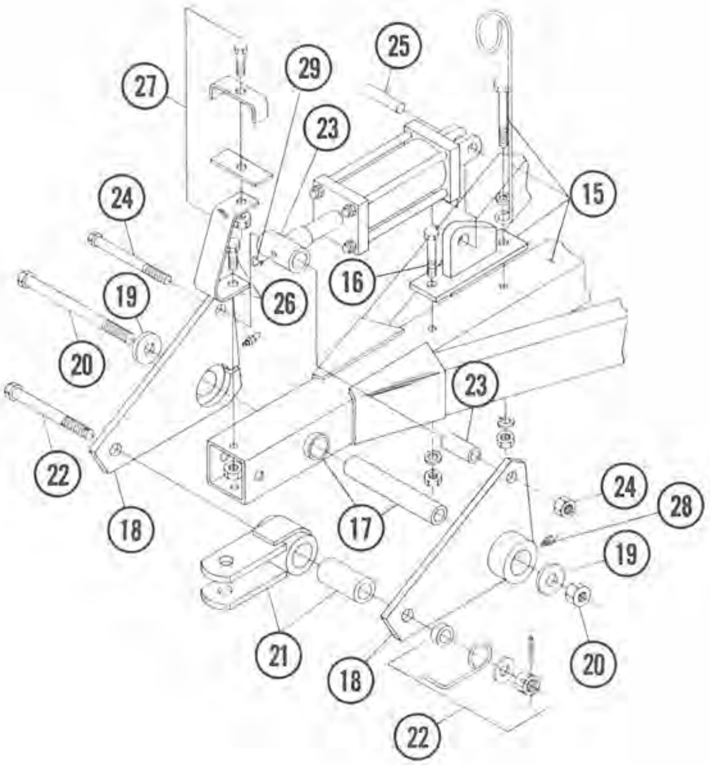
13. Place the hitch tubes inside the clevis.

14. Bolt the clevis and tube to the front of the tongue with a 1-1/4NC X 7-1/2" Special Cap Screw. Add the clevis spring, bushing, flat washer, and slotted hex nut. Secure the nut in place with a 1/4" Dia. X 2" Roll Pin.





OPTIONAL HYDRAULIC TONGUE ASSEMBLY



15. Bolt the tongue cylinder lug, hose carrier and tongue frame together using a 3/4NC X 6" Cap Screw, Lock Washer and Hex Nut.

16. Use a 3/4NC X 5-1/2" Cap Screw, Lock Washer and Hex Nut to complete the cylinder lug assembly.

17. Position the spacer tube inside of the tongue tube.

18. Position the right and left hitch plates on the spacer tube.

19. Use special heavy 1" Flat Washer on the outside of the hitch plates.

20. Secure the Assembly with a 1NC X 12" Machine Bolt and Self Locking Nut.

21. Place the hitch tube inside the clevis and position them between the hitch plates.

22. Bolt the clevis and hitch tube to the hitch plates with a 1-1/4NC X 7-1/2" Special Cap Screw. Add the Clevis Spring, Bushing, Flat Washer and Slotted Hex Nut. Secure the nut in place with a 1/4" Dia. X 2" Roll Pin.

23. Place the cylinder spacer tube inside the 4" X 5" Cylinder pivot.

24. Fasten the hitch plates to the tongue cylinder pivot with a 1NC X 7" Cap Screw and Self Locking Nut.

25. Fasten the base end of the cylinder to the cylinder lug with the pin provided.

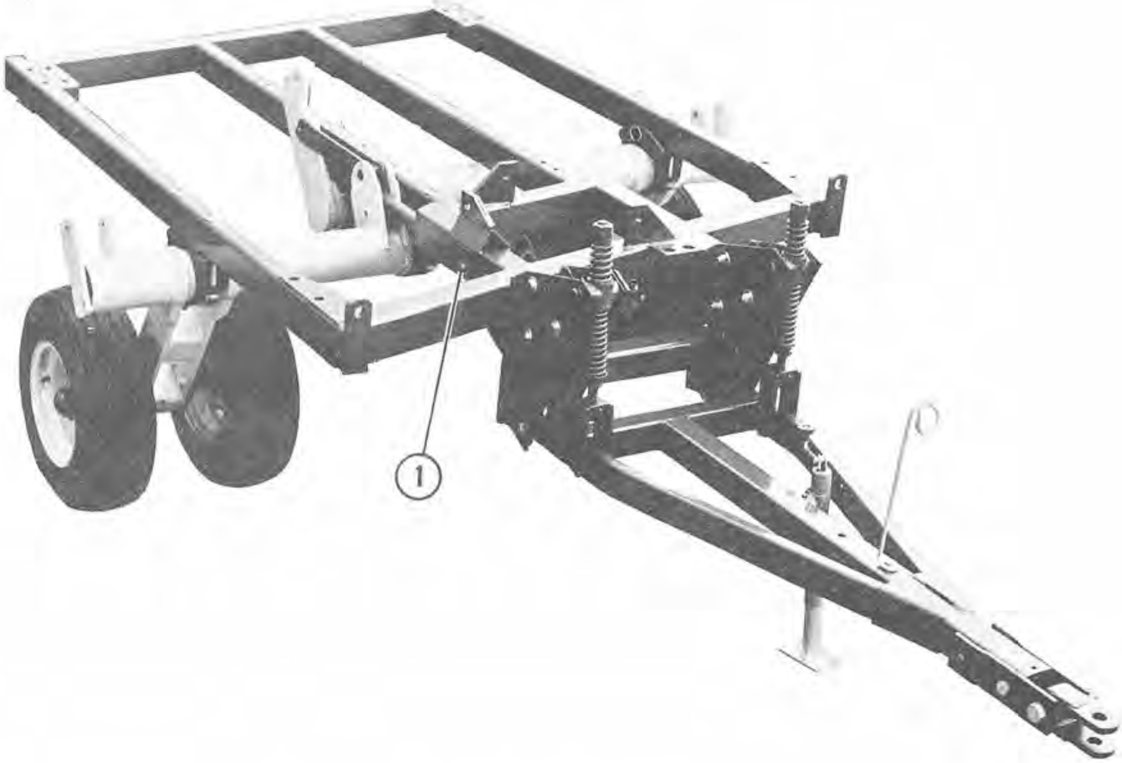
26. Bolt the front hose stand to the tongue frame with a 1/2NC X 1-1/2" Cap Screw and Self Locking Nut.

27. Fasten the hose stand to the hose clamp and plate with a 1/2NC X 2" Cap Screw and Self Locking Nut.

28. Screw a 1/8NPT Standard Zerk into each hitch plate pivot tube.

III. ROAD LOCK AND TRANSPORT POSITION

1. Insert the road lock pin assembly through the frame member just in front of the center rocker connector. Secure it in place with a P.T.O. Lock Pin.
2. Tighten all bolts.

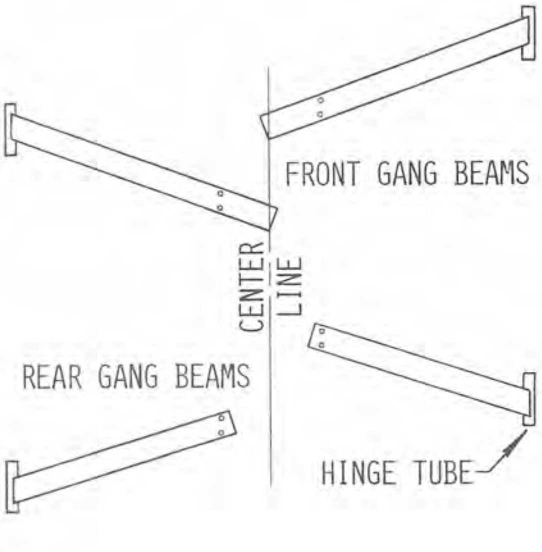


WARNING: HAVE ALL PERSONS STAND CLEAR BEFORE REMOVING FRAME STANDS.

3. Gently lift the back of the frame until the weight is off the stands. Remove the stands. The center frame should be free standing on its own tires when the frame is lowered back down.

IV. CENTER GANG BEAM ASSEMBLY

1. Place the front and rear center gang beams under the frame in the locations as shown to the right. The center gang beams are identified by the hinge tubes. The front center gang beams are longer than the rear gang beams.

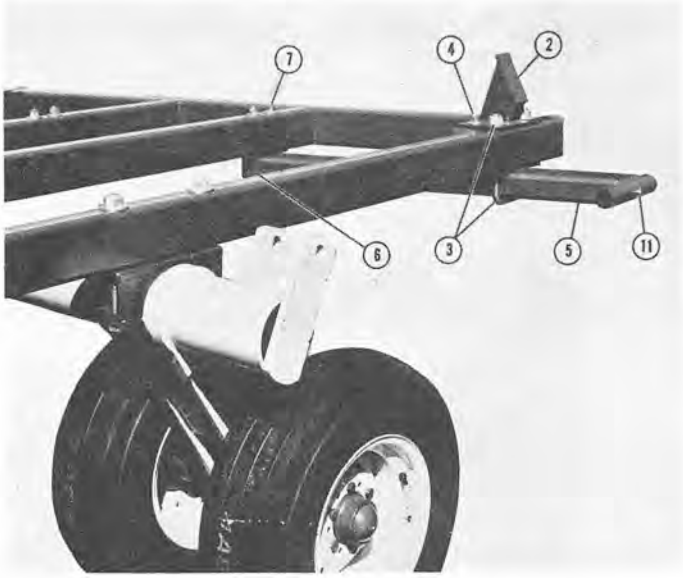


2. Position the wing supports on the frame at the two rear corners as shown.

3. Loosely assemble the wing support to the frame with 1" Dia. U-Bolts and Self Locking Nuts.

4. Use 5/8NC X 1-3/4" Cap Screws, Flat Washers, Lock Washers and Hex Nuts to complete the wing support assembly.

5. Slide the rear gang beam through the U-Bolt and align the holes to the holes in the center frame beams.



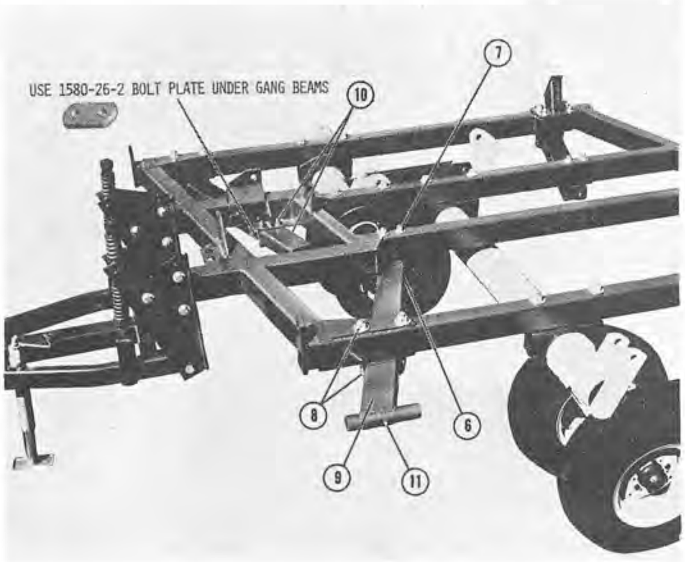
6. Place a bolt plate (Part # 1580-26-2) beneath the gang beam.

7. Bolt the plate and gang beam to the frame with (2) 3/4NC X 10" GRADE 5 Machine Bolts, Flat Washers, Lock Washers and Hex Nuts.

8. Loosely assemble the 1" Dia. U-Bolts and Self Locking Nuts to the front outside frame members.

9. Slide the left front gang beam through the U-Bolt and fasten it in place as in steps 6 and 7 above.

10. Slide the right front gang beam through the U-Bolt. Assemble the bolt plate (Part # 1580-26-2) and the gang beam to the frame with 3/4NC X 5" GRADE 5 Cap Screws, Lock Washers and Hex Nuts.



11. Screw 1/8NPT X 90° Zerks into each hinge tube.

12. Tighten all gang beam bolts.

V. DISC GANG ASSEMBLY AND ATTACHMENT (CENTER FRAME)

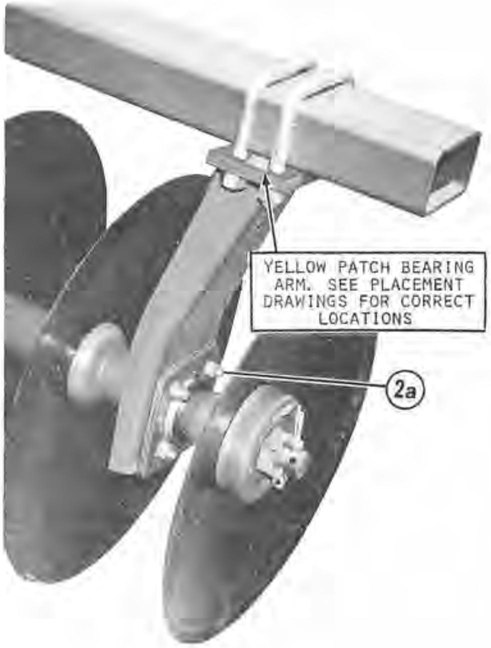
DANGER: SERIOUS INJURY CAN BE INFLICTED BY DISC BLADES AND DISC GANGS IF NOT HANDLED SAFELY. WATCH FOR UNSAFE CONDITIONS AND BE AWARE OF THE UNEXPECTED. KEEP YOUR CO-WORKERS SAFETY IN MIND. SHOULD PERSONAL INJURY OCCUR, HAVE MEDICAL TREATMENT ADMINISTERED IMMEDIATELY.

1. A placement drawing is furnished between pages A29 through A60 that will serve as a guide for proper gang assembly, location and adjustments for each model in the series. Turn to the placement drawing for the model number stamped on the name plate, and study the information for the model being assembled.

2. The model number and placement drawing will reflect one of two bearing arm designs.

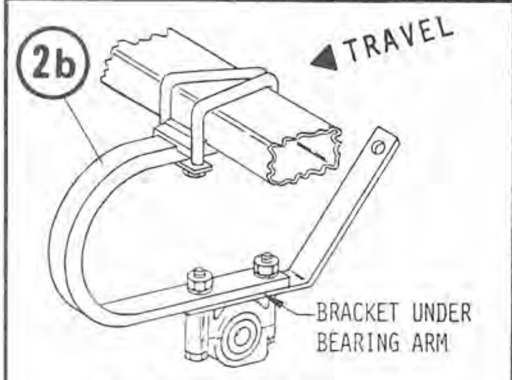
2a. If the model number reads 4901 through 4918, the disc gangs will use rigid bearing arms. Loosen the four 1/2NC X 1-1/2" Carriage Bolts approximately one turn on all bearing arm flangettes.

IMPORTANT: NOTE THAT SOME RIGID BEARING ARMS HAVE YELLOW MARKINGS ON TOP OF THE MOUNTING PLATE. THE PLACEMENT DRAWING WILL SHOW THE CORRECT LOCATIONS OF THESE BEARING ARMS, AND THEY MUST BE ADDED AT THESE LOCATIONS DURING THE GANG ASSEMBLY.


YELLOW PATCH BEARING ARM. SEE PLACEMENT DRAWINGS FOR CORRECT LOCATIONS
2a

2b. If the name plate reads model 4921 through 4938, the disc gangs will have "C" arms, or rock flex bearing arms.

IMPORTANT: NOTE THAT THERE ARE THREE DIFFERENT BEARING ARMS USED ON MODELS 4921 THROUGH 4127. THE PLACEMENT DRAWING WILL SHOW THE CORRECT LOCATION FOR EACH OF THE BEARING ARM ASSEMBLIES, AND THEY MUST BE ADDED AT THESE LOCATIONS DURING THE TIE ROD ASSEMBLY. THE ROUND SHAPE OF THE BEARING ARM WILL ALWAYS FACE THE FRONT, OR THE DIRECTION OF TRAVEL.



ROCK FLEX BEARING ARM FOR RIGID SCRAPERS OR TRASH BARS

NOTE: Before assembling each flex gang, select the correct bearing arm for that gang. Remove the bearing casting hex nuts and lock washers and attach the correct scraper or trash guard bar to the bottom of the bearing shank, and replace the lock washers and hex nuts.

3. Select a pattern for assembly. Whether you assemble all gangs before attachment, or assemble and attach each gang; the front center section gangs must be attached and adjusted first on all models.

   A few general steps to follow during disc gang assembly will insure correct gang attachment to the frame, and prevent future tear-downs due to improper assembly. Study the placement drawing for each gang and determine the following information.

   a. The correct tie rod and spacer spools.

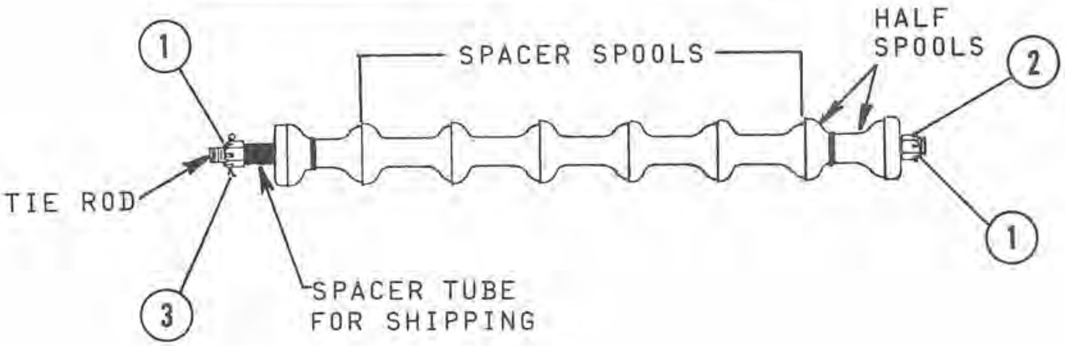
   b. Note the direction of travel in relation to disc blade position on the tie rod, and the location of the tie rod roll pin if at the hinge line.

   c. Make sure that yellow marked bearing arms are added where noted on the drawing or correct location for the right and left "C" arms.

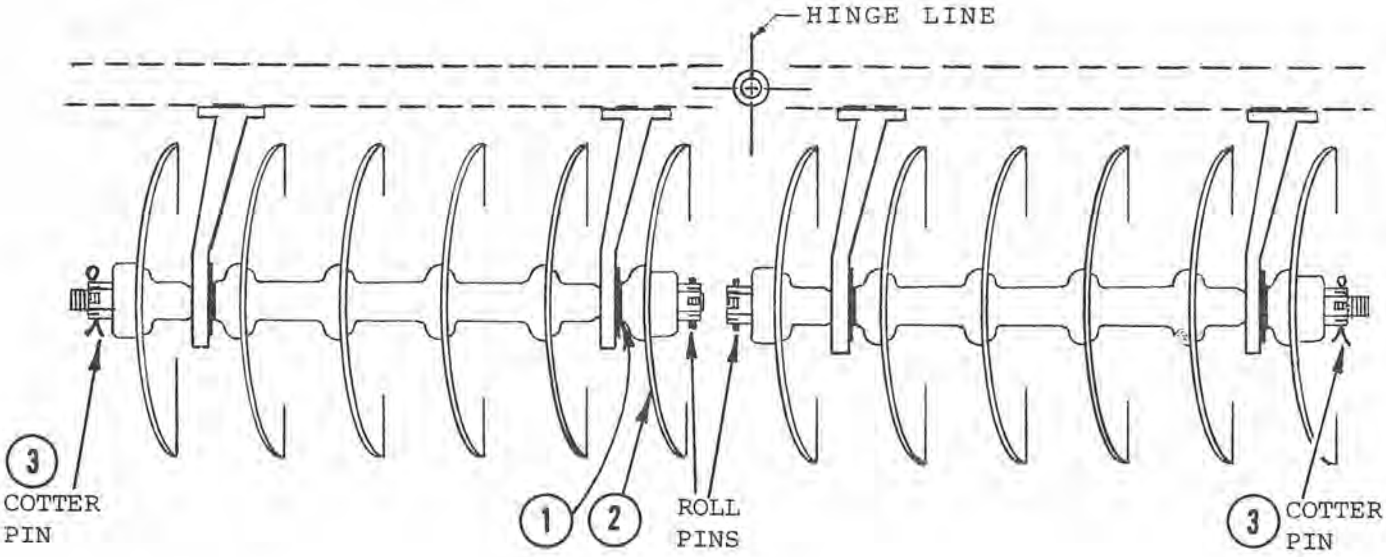
   d. Taper blades are added to assemblies as shown on the drawing.

4. The first tie rod shipping group selected for assembly will have washers, half spools and spacer spools on the tie rod with a 1-1/2NC Slotted Hex Nut ① on each end. One nut is secured with a roll pin ② on one end of the tie rod and the nut on the opposite end is secured with a 3/8" Dia. X 3-1/2" Cotter Pin ③. Remove the cotter pin and disassemble the tie rod shipping group. The nut and cotter pin will be used at the end of the completed gang assembly. The shipping spacer tube can be discarded.

TYPICAL TIE ROD SHIPPING GROUP



5. The drawing below will illustrate the correct disc gang assembly determined by the gang location and direction of travel. If you are standing in front of the unit, then the gang drawn on the left would be the center section left front. The gang on the right would be the inside left front wing gang. (NOTE the hinge roll pin locations.) If you were standing at the back of the unit, then the right gang drawn is the center section left rear gang, and the left drawing is the inside left rear wing gang. (NOTE the facing roll pins at the hinge line.)



6. Using the preceding information and the placement drawing, assemble the disc gangs. NOTE that all contact surfaces of the castings have been machined to fit the contour of the disc blades. If placed on the tie rod incorrectly, the blade spacing will be wrong and blades will break in the field. ALWAYS place the rigid bearing arm on the tie rod so the bearing flangettes ① are located on the thrust side or, on the convex side ② of the disc blades.

7. When the gang has been assembled, replace the slotted hex nut and torque to approximately 600 ft. lbs. Secure the nut with the 3/8" Dia. X 3-1/2" Cotter pin ③. Clinch or spread the cotter pin to prevent loss.

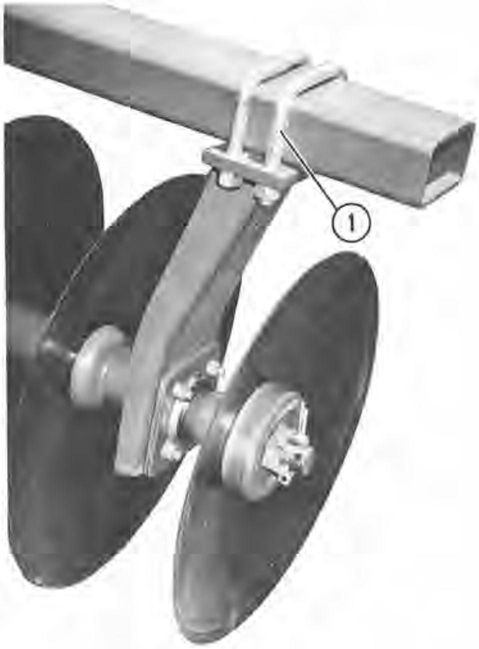
8. If all gangs are assembled before attachment, mark each gang to indicate the location on the unit, such as C.F.L., for center front left.

⚠ **DANGER:** NEVER ATTACH DISC GANG ASSEMBLIES TO THE BACK OF THE FRAME FIRST. THE ADDED WEIGHT OF THE GANGS COULD CAUSE THE FRAME TO TIP BACKWARDS UNEXPECTEDLY AND INJURY PERSONS WORKING OR STANDING NEARBY.

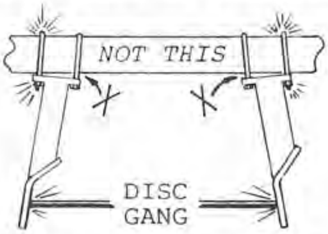
13. Roll the completed front gang assemblies under the frames at their specific locations.

14. Starting at the center front, loop a length of chain under the center spacer spool and over the frame member and raise the gang until the bearing arm top plates touch the bottom of the frame. The loose flangette carriage bolts will allow the bearing arm to be adjusted square with the frame member.

15. Attach the bearing arm top plate to the bottom of the frame with two U-Bolts ①, and four 3/4" STD. Lock Washers, and 3/4NC Hex Nuts. Adjust the gang to the dimension reflected on the placement drawing and tighten the U-Bolts. As the U-Bolts are drawn up tight, be sure the top plate raises flat against the frame and not tilted to one side, causing a lever action that preloads the bearings.



A BEARING IS A PRECISION PART, TREAT IT CAREFULLY

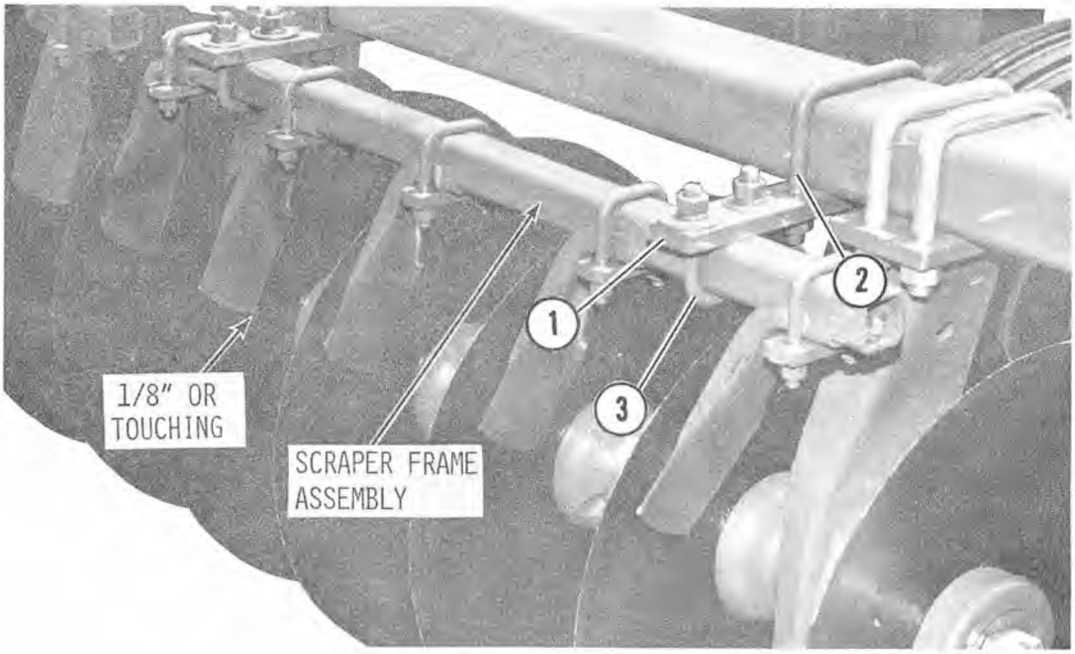


BE SURE THE BEARING ARM FITS FLAT AGAINST THE GANG BEFORE TIGHTENING THE U-BOLTS.

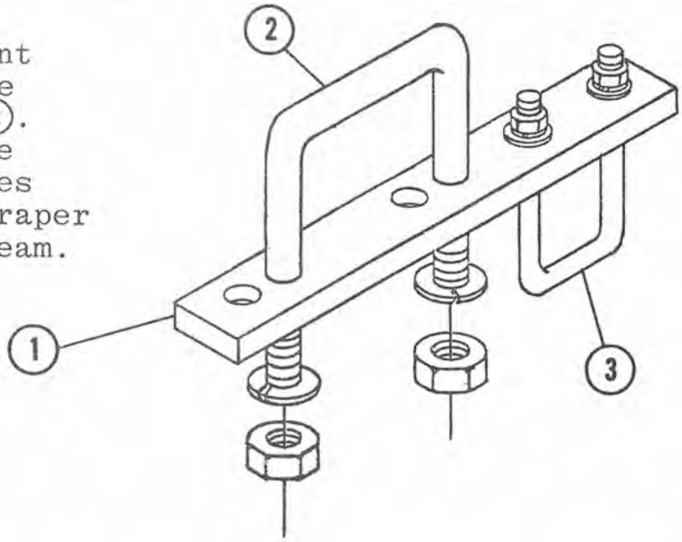
16. Attach the disc gang assembly to the back of the frame starting with the center section and working to the outside. NOTE that the front gang disc blades have the concave side toward the outside. The back gangs will have the concave side toward the inside of the harrow. Locate and tighten the inside center gangs as reflected on the placement drawing. Continue gang attachment and gang spacing as performed on the front.

VI. RIGID SCRAPER ASSEMBLY (CENTER FRAME)

1. The placement drawing will show scraper bracket locations. Mark these locations on the frames and attach a bracket ① at each mark with the large bracket U-Bolt②.



NOTE: There are two different hole locations for the large bracket U-Bolt②. For rigid scrapers the U-Bolt ② uses the holes which position the scraper closest to the gang beam.

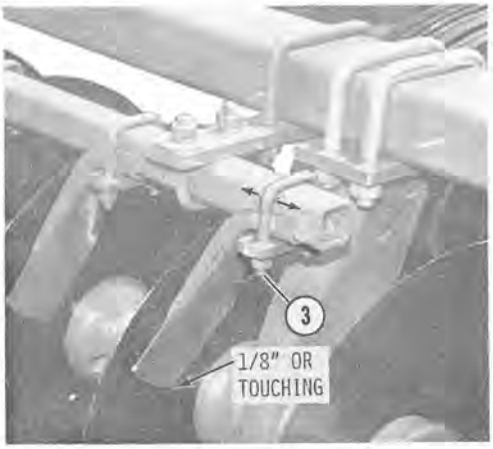


2. Remove the small U-Bolts③ at the back of the brackets and attach the correct scraper frame assembly loosely under the brackets as shown, making sure each disc blade is scraped except the two front outside wing tapered blades, and the two rear inside center disc blades. The two back outside scraper frames will have extension trash bar loops.

3. Adjust each scraper frame in the brackets by moving the frame toward the concave side of the disc blades until a scraper touches a disc blade. Align the brackets on the harrow frame and tighten the large U-Bolts. Re-check the same scraper to be sure it is touching, or is within 1/8" from the disc blade and tighten the smaller U-Bolts.

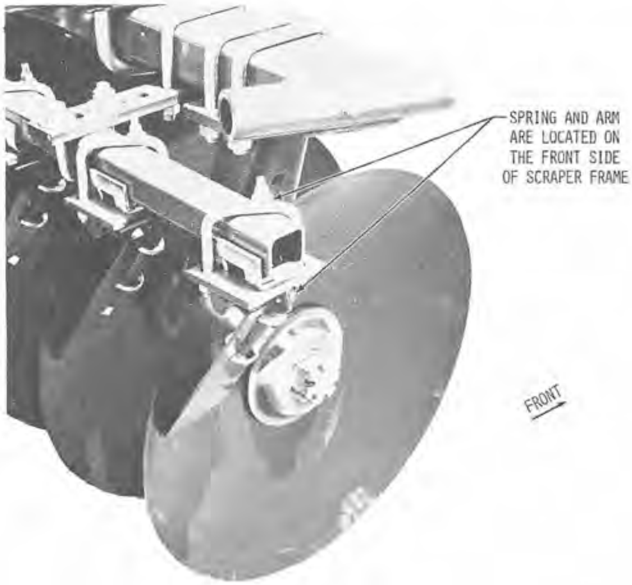
4. Adjust each scraper blade if not within 1/8" or touching the disc blade by loosening the scraper U-Bolt ③.

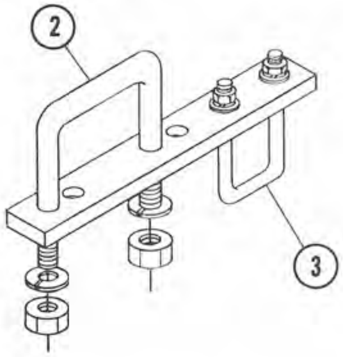
   IMPORTANT: DO NOT RESTRICT THE ROTATION OF THE GANG BY FORCING THE SCRAPER BLADES AGAINST THE DISC BLADES.



VII. SPRING LOADED SCRAPERS (CENTER FRAME)

1. The placement drawing will show scraper bracket locations. Mark these locations on the frame and attach a bracket ① at each mark with the large bracket U-Bolt ②.

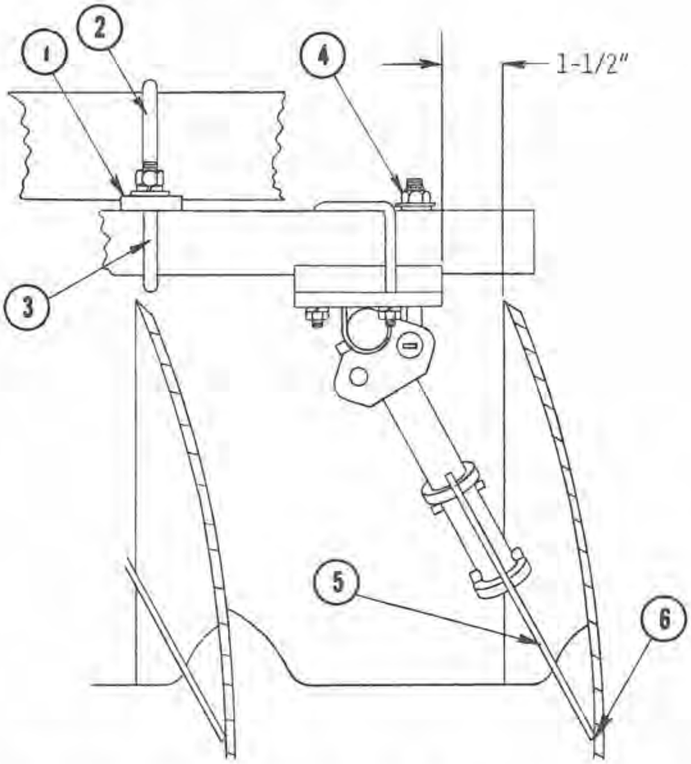

SPRING AND ARM ARE LOCATED ON THE FRONT SIDE OF SCRAPER FRAME
FRONT



NOTE: There are two different hole locations for the large bracket U-Bolt ②. For spring scrapers the U-Bolt uses the holes which position the scraper bar away from the gang beam as shown in the illustration above.

2. Remove the small U-Bolts ③ at the back of the brackets and attach the correct scraper frame assembly loosely under the brackets as shown, making sure each disc blade is scraped except the two front outside wing tapered blades, and the two rear inside center disc blades. The two rear outside scraper frames will have extension trash bar loops.

3. Loosen the adjustment nut ④ on each spring scraper. Adjust each scraper frame toward the concave side of the disc blades until the scraper mounting plate is 1-1/2" from the edge of the brackets ① on the harrow frame and tighten U-Bolts ② and ③ .

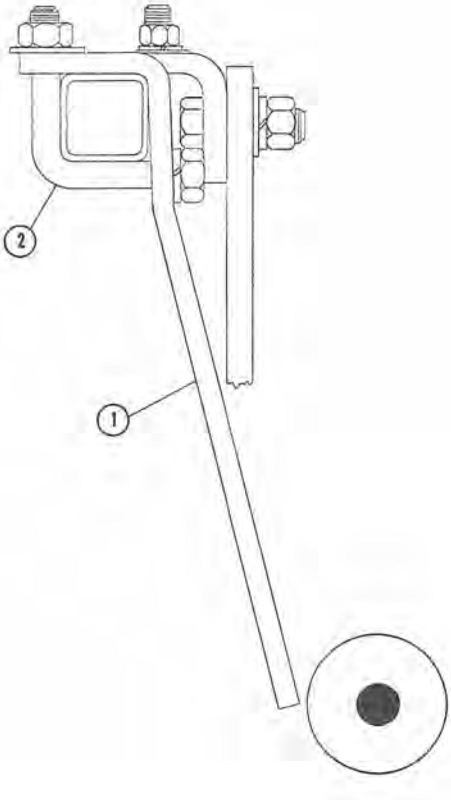


4. Use the following procedure to adjust the correct amount of scraper blade force against the disc blade. First loosen the adjusting nut ④ a little more until the scraper blade ⑤ starts to move away from the disc blade. Next, retighten the adjustment nut ④ slightly until the scraping edge of the blade ⑥ is just contacting the disc blade. Continue tightening the adjusting nut ④ from the point, one revolution for each 5 lbs. of scraper force desired. For initial set up, tighten it 3 complete revolutions, which should be approximately 15 lbs. of force.

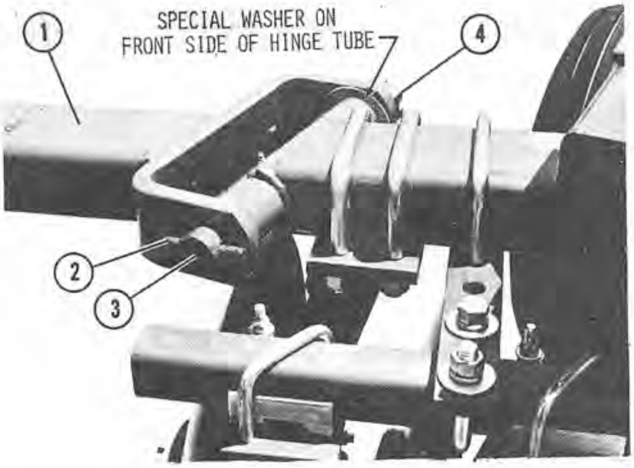
VIII. ROCK FLEX TRASH BARS

1. Loosen the bolts holding the spacers and plate on the center bracket. Slide the trash bar frame into position, making sure that the holes for end brackets are in alignment with the holes in the trash bar frame. Then bolt the frames to the back of the brackets using the spacer provided.

2. Attach and adjust trash bars ① to the frame with "L" bolts ② as shown. The trash bars should not be rubbing spools. To adjust, loosen the upper nut on the "L" bolt and tighten the lower nut.



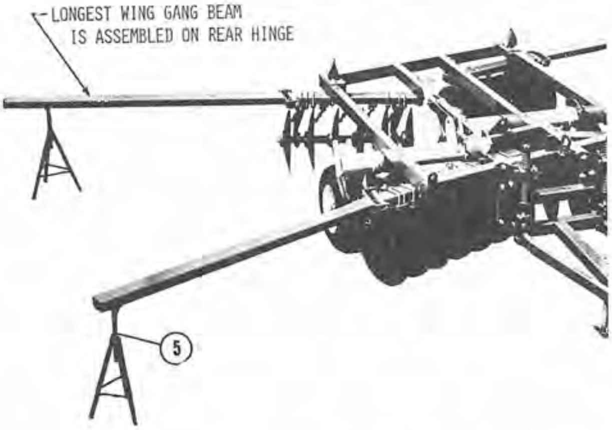
IX. WING FRAME ASSEMBLY



1. Attach the wing gang beams to the center frame hinge tubes. The rear wing gang beams are longer than the front gang beams.

2. Insert the long portion of the hinge pin lock into the hole on the plain end of the hinge pin.

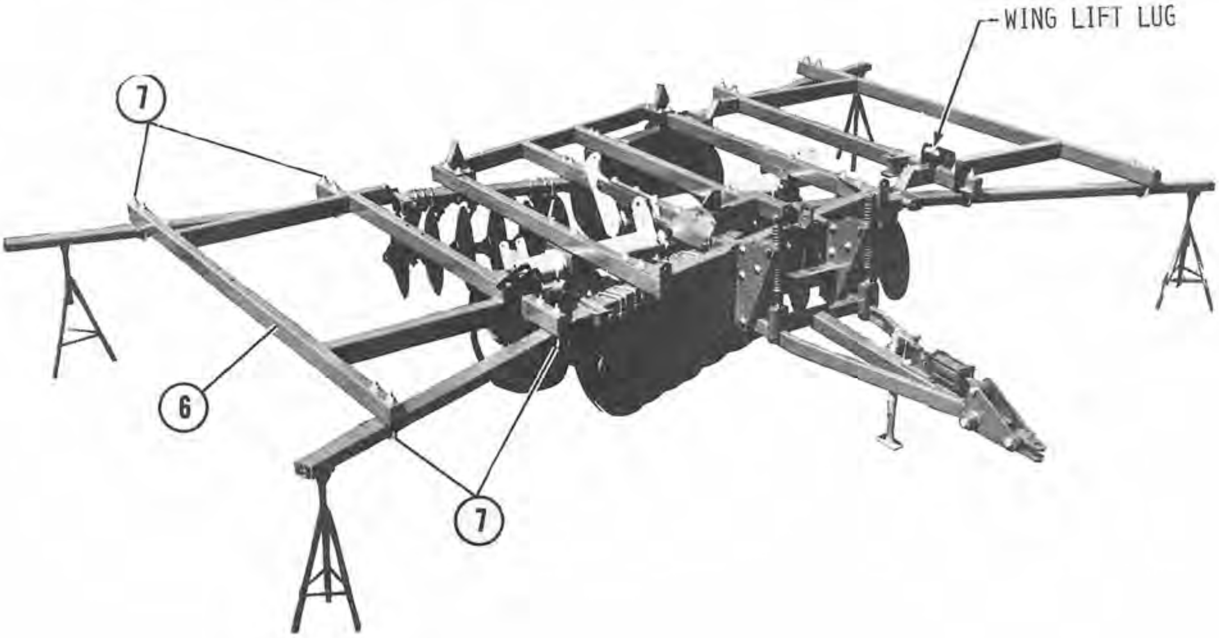
3. Push the pin and lock through the hinge and special washer until the lock is firmly engaged in the hinge clevis hole.



4. Secure the hinge pins with 1-1/2NC Slotted Hex Nuts. After tightening the slotted nut, turn the nut back until a slot in the nut is in alignment with the hole in the hinge pin for the 1/4" Dia. X 3" Cotter Pin.

5. Raise the outer end of the wing gang beams and support them on stands.

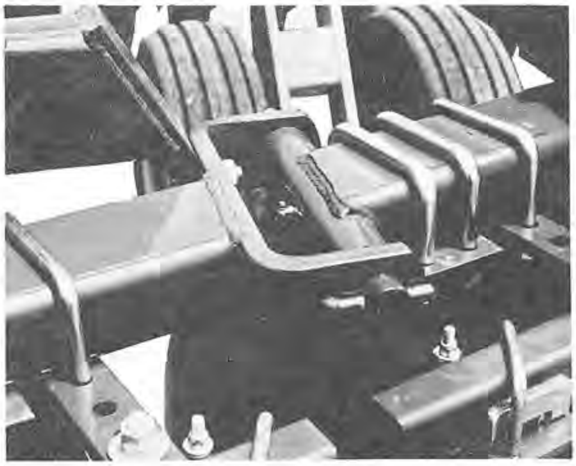
6. Place the wing frames on top of the gang beams. The wing lift lugs should be on top and toward the front.



7. Loosely assemble the gang beams to the frame with 1"Dia. U-Bolts, Flat Washers, and Self Locking Nuts at the four corner locations on each frame. The 1" STD. Flat Washers should be assembled on top of the frame beams. The outside U-Bolts must pass between the two locator straps that are welded to the gang beams.

8. Bolt the wing frame to the hinge clevis with a 3/4NC X 2-1/2" Cap Screw, Lock Washer and Hex Nut.

9. Tighten all of the wing frame U-Bolts.

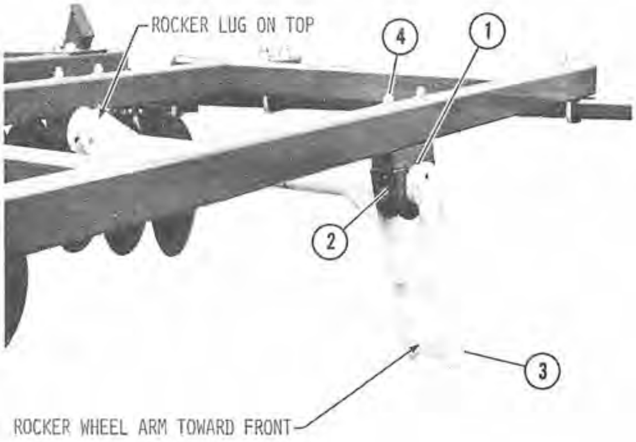


X. WING ROCKER AND CONNECTING LINKS

1. Clean excess paint and dirt from the grease channels in the rocker bearing plates and rocker clamps. Screw 1/8NPT X 45° zerks into the rocker bearing plates.

2. Screw 1/4NPT X 67-1/2° zerks into the bearing clamps.

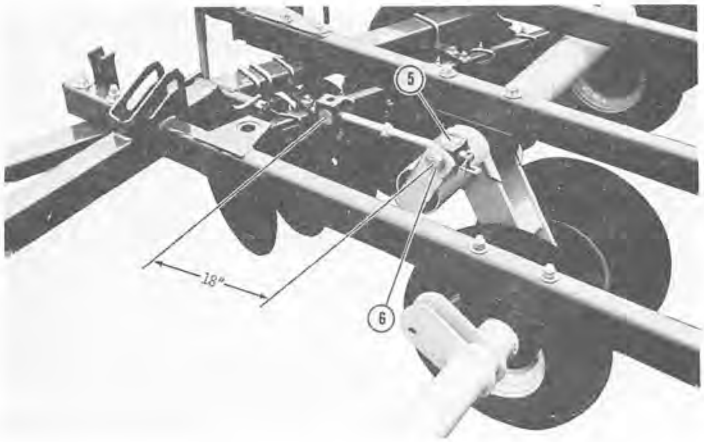
3. Position the rocker shaft and clamps under the frame. Make sure the wheel arms point to the front of the unit and that the lift lugs are on the top.

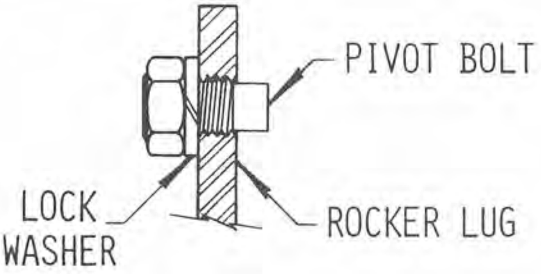


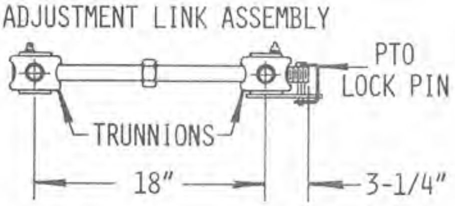
4. Bolt the rocker shaft clamps to the frame using 3/4NC X 9" Cap Screw, Flat Washers, Lock Washers and Hex Nuts.

5. Position the pinned end of the adjustment link between the main rocker lugs.

6. Fasten the trunnion to the main rocker lug with special Pivot Bolts and 1-1/4" STD. Lock Washers.





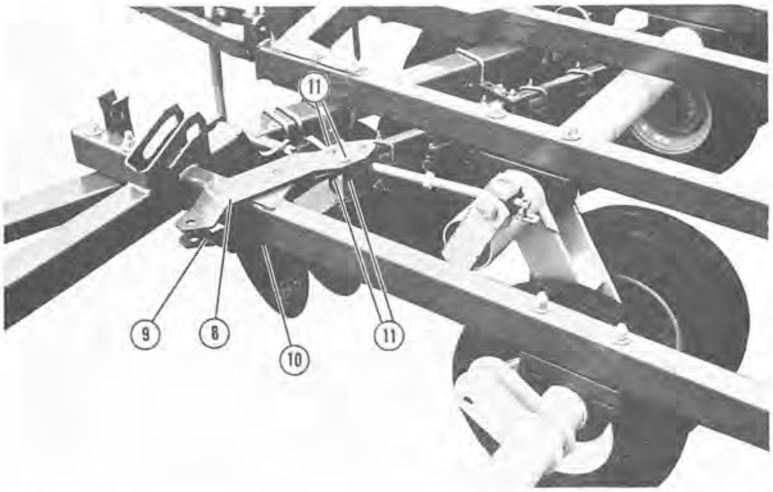


7. Check the trunnion dimensions on the adjustment link assembly and make corrections if necessary as shown above.

8. Insert the bell crank with the threaded stud into the wing frame and adjustment trunnion.

9. Assemble the lower bell crank under the frame and trunnion.

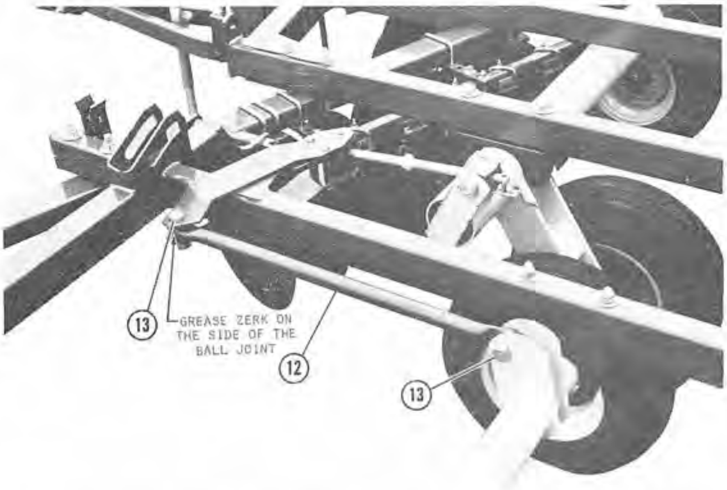
10. Lock the upper and lower bell cranks together with a 1NC Self Locking Nut on the bottom side of the threaded stud.



11. Lock the trunnion in place with spacers 5/8NC X 5-1/2" Cap Screws, Lock Washers, and Hex Nuts.

12. Position the fixed length connecting link between the bell crank and the wing rocker shaft.

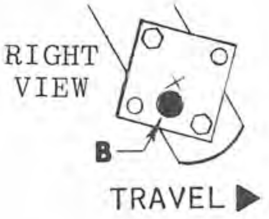
13. Bolt the connecting link in place with 1NC X 4" Cap Screws, Lock Washers and Hex Nuts.

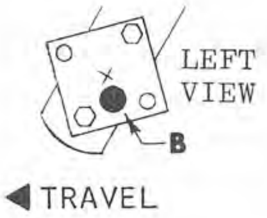


IMPORTANT: TORQUE THE 1NC X 4" CONNECTING LINK BOLTS TO 175 FOOT POUNDS. THIS WILL LOCK THE BALL JOINT TO THE LUG PLATES AND PREVENT EXCESSIVE WEAR.

XI. WING TIRE AND HUB ASSEMBLY

1. Attach the single or dual hubs and tires to the wing wheel arms. Note that the position of the spindle is different from the center section. With spindles located as shown below, bolt the hubs to the wheel arms with 3/4NC X 2-1/2" Cap Screws ①. Torque the wheel bolts from 90 to 95 Ft. Lbs.





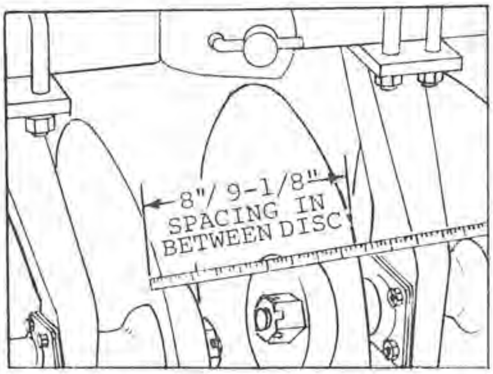
USE LOCATION (B) FOR 9.5L & 11L TIRES

2. Remove the stands from the wing gang beams and the entire disc should be "free standing".

XII. WING DISC GANG AND SCRAPER ASSEMBLY

1. The placement drawings for the model being assembled will reflect the correct disc gang and scraper assemblies to be used.

2. Continue the front and rear gang attachment as shown in Section V. Always check the spacing between the gang assemblies after tightening the U-Bolts to insure proper spacing between the gangs.

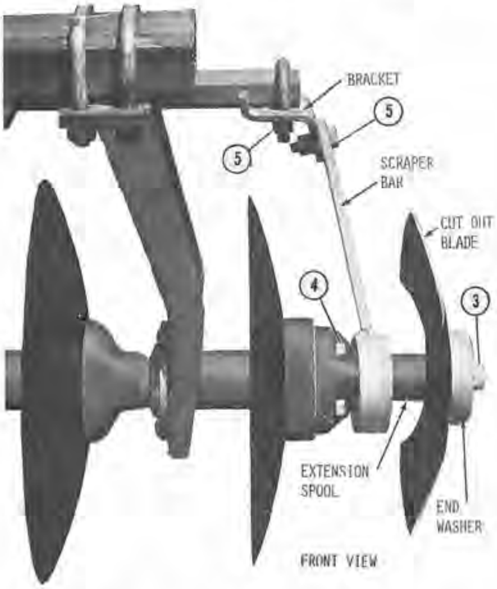


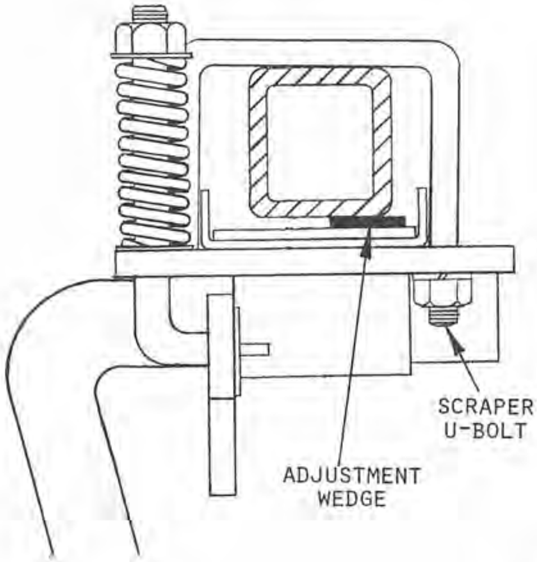
3. Remove the machine bolts and washers from the extension spools.

4. Remove and discard the 1/2NC Nuts from the four bolts and attach the extension spools to the end washers on the outside rear disc gangs with 1/2NC bolts.

5. Loosen the bracket bolts and U-Bolts.

6. Position the loop of the trash bar over the extension spool as shown in the parts listing, and slide the U-Bolt over the extended scraper frame. Place the "3 Notch" cut-out blade over the square cast locator and secure in place with the extension washer and machine bolt. Adjust the bracket on the scraper frame making sure the loop is in the center of the spools. Tighten the bracket U-Bolt, then rotate the gang to be sure the cut-out blade notches clear the bar of the extension scraper.

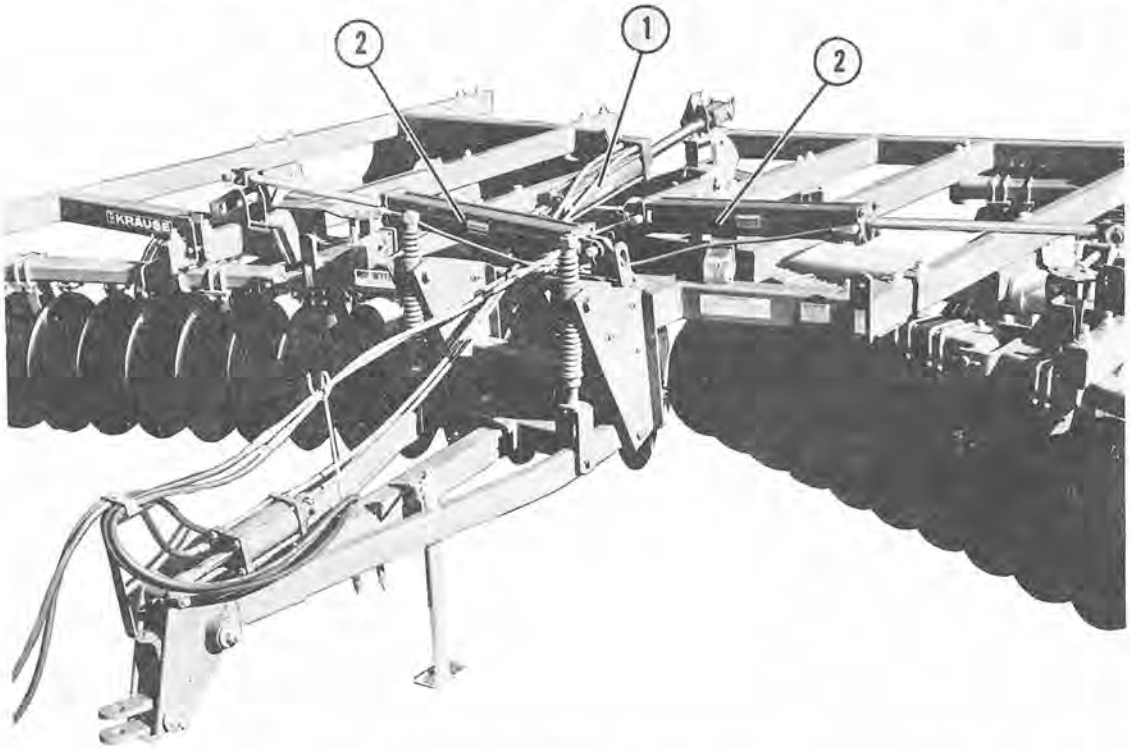




There is an adjustment wedge used to mount the spring scraper next to the extension trash bar loop on the rear outer disc blades. This scraper can be tilted towards the spool by tightening and loosening the nuts on the scraper U-Bolt. This scraper should be adjusted so that the scraper does not hang over the outside of the taper disc blade.

XII. HYDRAULICS

IMPORTANT: DO NOT PIN THE ROD ENDS OF THE CYLINDERS TO THE LIFT LUGS UNTIL ALL HYDRAULIC ASSEMBLY IS COMPLETE AND THE SYSTEMS HAVE BEEN PURGED OF AIR AND FILLED WITH OIL.



1. Pin the base end of the 4" X 16" Hydraulic Cylinder to the center frame in line with the main rocker shaft lugs. Block the cylinder up so that the rod end will clear the rocker lug when it is extended.
2. Pin the base ends of the two 4" X 32" Wing Lift Cylinders to the center frame. Block the cylinders up so that the rod ends will clear the wing lift lugs when they are extended.

PLUMBING-

⚠ CAUTION: USE ONLY HOSE THAT MEETS OR EXCEEDS 2,500 P.S.I. WORKING PRESSURE.

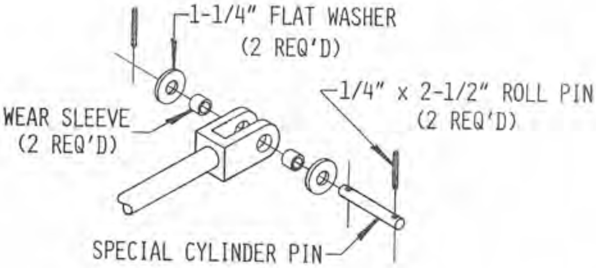
NOTE: No tape or sealant is necessary on O-Ring Fittings or 37° Flare Fittings.

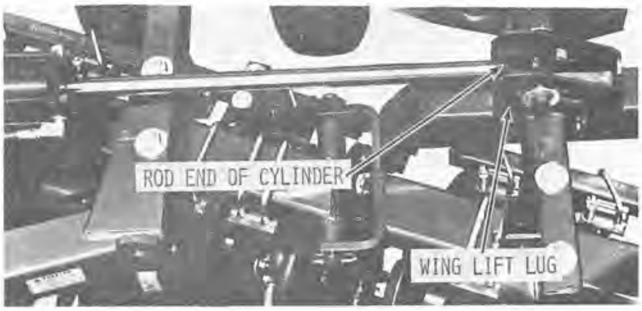
Refer to the hydraulic plumbing pages in the parts section pages (Pages P29 - P34) for the correct assembly of hoses, fittings, and hose clamps. Page P29 illustrates the standard hose assembly without the hydraulic tongue cylinder. Page P31 illustrates the hose assembly with the tongue cylinder plumbed into the rocker cylinder circuit. Page P33 illustrates the hose assembly with the tongue cylinder plumbed into the wing lift cylinder circuit.

IMPORTANT: A 90° RESTRICTOR SHOULD BE ASSEMBLED INTO THE ROD END PORT OF EACH 4" X 32" WING LIFT CYLINDER. THE RESTRICTOR CAN BE INDENTIFIED BY THE DICHROMATE YELLOW COLOR. THE PROPER LOCATION OF THESE FITTINGS IS IMPORTANT TO PREVENT THE WINGS FROM FREE FALLING IF A HYDRAULIC FAILURE OCCURS.

CHARGING THE CYLINDERS -

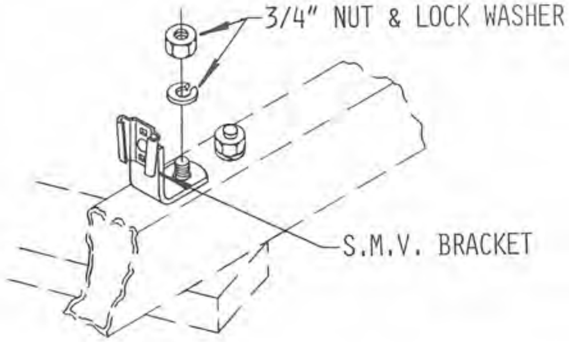
1. After all hose and fittings are assembled, check the blocks under the wing cylinders and rocker cylinder. Make sure the cylinders are raised high enough to clear any attaching lugs.
2. Attach hydraulic hoses to tractor.
3. Extend and retract the cylinders several times to fill with oil and purge air from lines.
4. After the cylinders are full, extend them to maximum length and remove the wood blocks.
5. Pin the rod end of the rocker cylinder to the rocker lug.
6. Pin the rod end of the wing cylinders to the wing lugs using the special pins, wear sleeves, 1-1/4" STD. Flat Washers, and 1/4" Dia. X 2-1/2" Roll Pins as shown below.

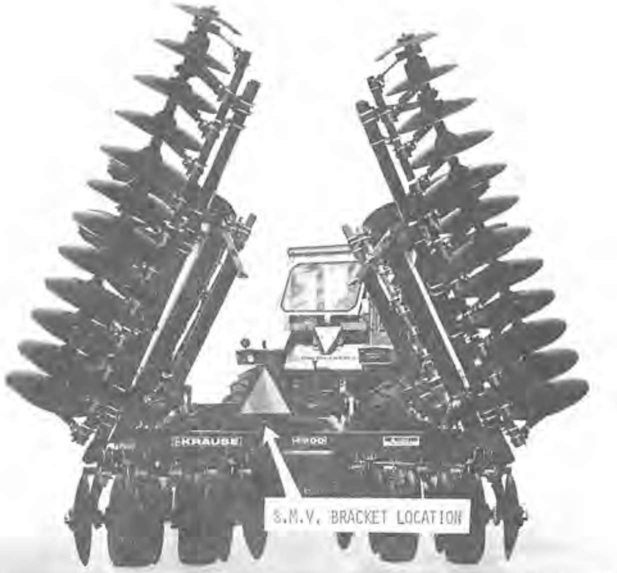


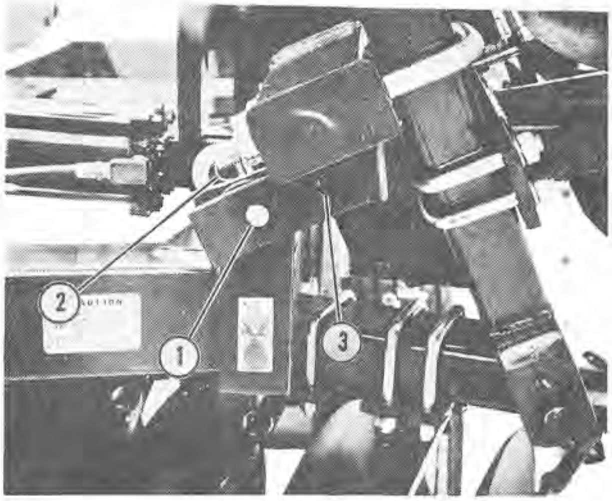


XIV. SMV (SLOW-MOVING-VEHICLE) BRACKET ASSEMBLY

1. Remove a 3/4NC Nut and Lock Washer from one of the left rear center gang beam bolts and attach the SMV bracket.







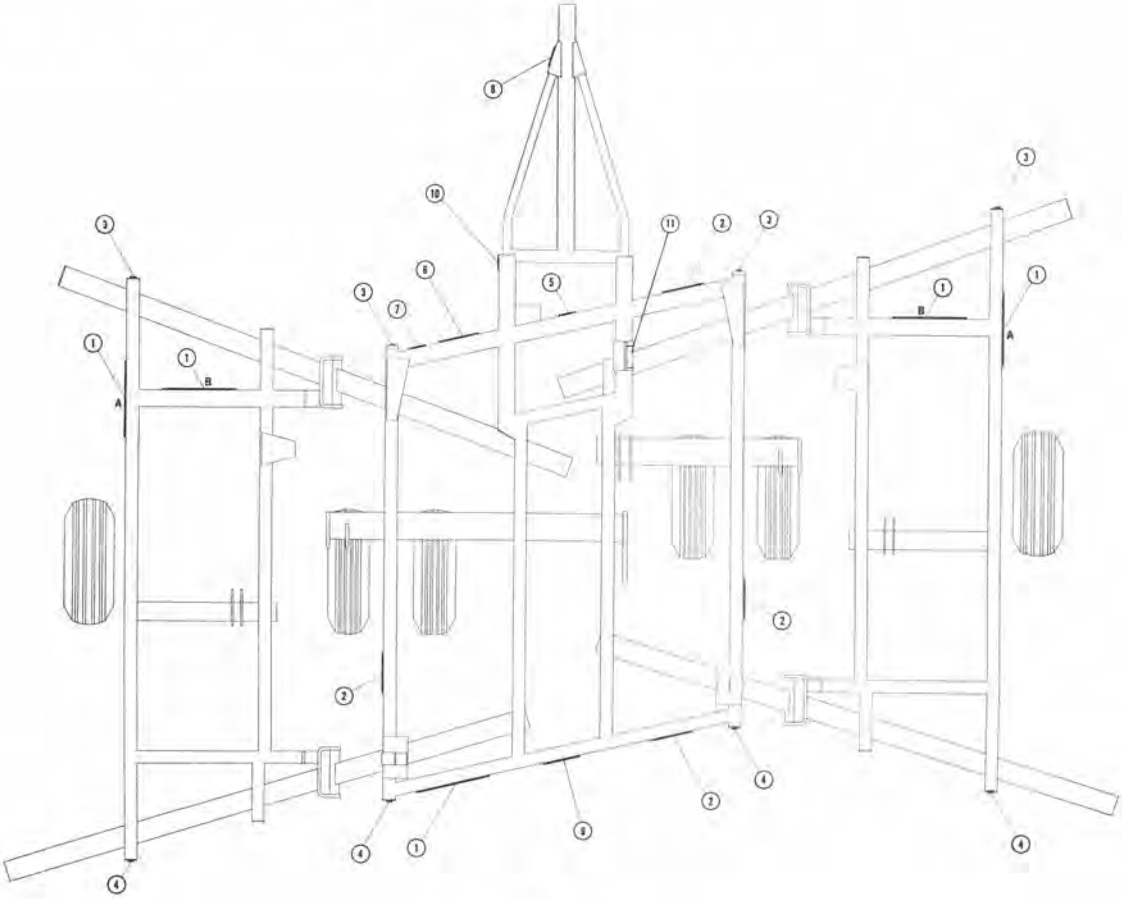
XV. WING LOCKS

1. 3/4" DIA. X 2-1/2" Clevis Pins are used to lock the wings for transport.
2. The clevis pins are held in place with Safety Pins.
3. There is an additional hole in the wing lock bracket that is for pin storage when not in use.

XVI. DECAL ATTACHMENT

It is very important that all decals be placed on the harrow as shown in the drawing below. These decals reflect safety and operating messages that are just as important as the parts that have been assembled. NOTE: Wipe frame members clean before applying decals for better adhesion. If decals or reflectors should become faded or damaged be sure to replace them.

① KRAUSE Decal , ② DANGER Stand Clear Of Wing Decal , ③ Amber Reflectors , ④ Red Reflectors , ⑤ Name Plate , ⑥ Implement Safety Decal , ⑦ CAUTION - Width and Height Decal , ⑧ Patent Decal , ⑨ 4900 Series Decal , ⑩ Adjustment Screw Decal , ⑪ Parking Lock Decal.

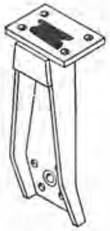


MODEL 4901

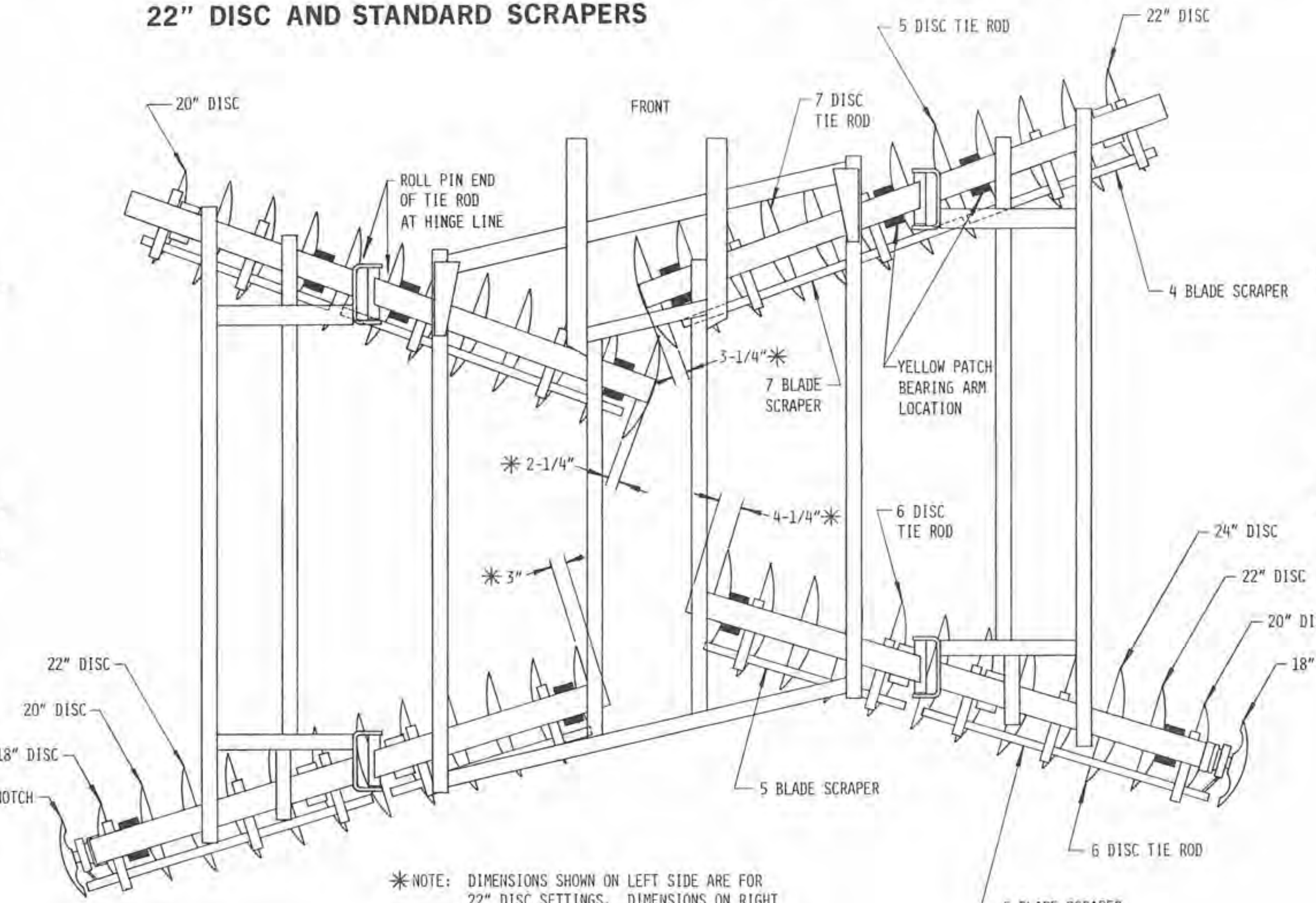
9-1/8" SPACING

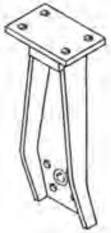
LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS



1918-10-0
BEARING ARM
ASSEMBLY
(YELLOW TOP)





1918-11-0
BEARING ARM
ASSEMBLY

✳NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

8/83

MODEL 4901

TIE RODS

QTY. DISC	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
5	9-1/8"	1901-16-1	42-5/8"	22",24"	1015H-952-0L
6	9-1/8"	2146-82-1	51-3/4"	22",24"	1015H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22",24"	1015H-972-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QTY.
30-119	22"	42
30-108	20"	4
30-104	18"	2
30-148	16"Cut Out	2

DISC BLADES 24"

PART NUMBER	DIAMETER	QTY.
30-129	24"	42
30-119	22"	4
30-108	20"	2
30-147	18"Cut Out	2

SPRING LOADED SCRAPERS 1901-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	*2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	*2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	4	2009-042-0A	2008-1-385	38-1/2"
Right Front Wing	4	2009-042-0B	2008-1-385	38-1/2"
Left Rear Wing	6 + EXT.	*2009-061-0B	2008-1-585	58-1/2"
Right Rear Wing	6 + EXT.	*2009-061-0A	2008-1-585	58-1/2"

RIGID SCRAPERS (3-1/2") 1901-288-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	*952A-185-0	1159-183-1	60"
Right Front Center	7	*952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	4	*1401-181-0	960A-185-1	40"
Right Front Wing	4	*1401-182-0	960A-185-1	40"
Left Rear Wing	6 + EXT.	1401-184-0	1159-183-1	60"
Right Rear Wing	6 + EXT.	1401-183-0	1159-183-1	60"

RIGID SCRAPERS (5") 4901-188-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	4	4901-184-0	2008-1-385	38-1/2"
Right Front Wing	4	4901-183-0	2008-1-385	38-1/2"
Left Rear Wing	6 + EXT.	4901-181-0	2008-1-585	58-1/2"
Right Rear Wing	6 + EXT.	4901-182-0	2008-1-585	58-1/2"

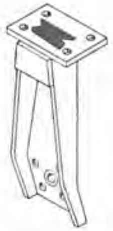
* COMBINATION SCRAPER GROUP 1901-488-0A (FOR 22" DISC ONLY) Rigid Scrapers on FRONT, Spring Loaded Scrapers on REAR

MODEL 4904

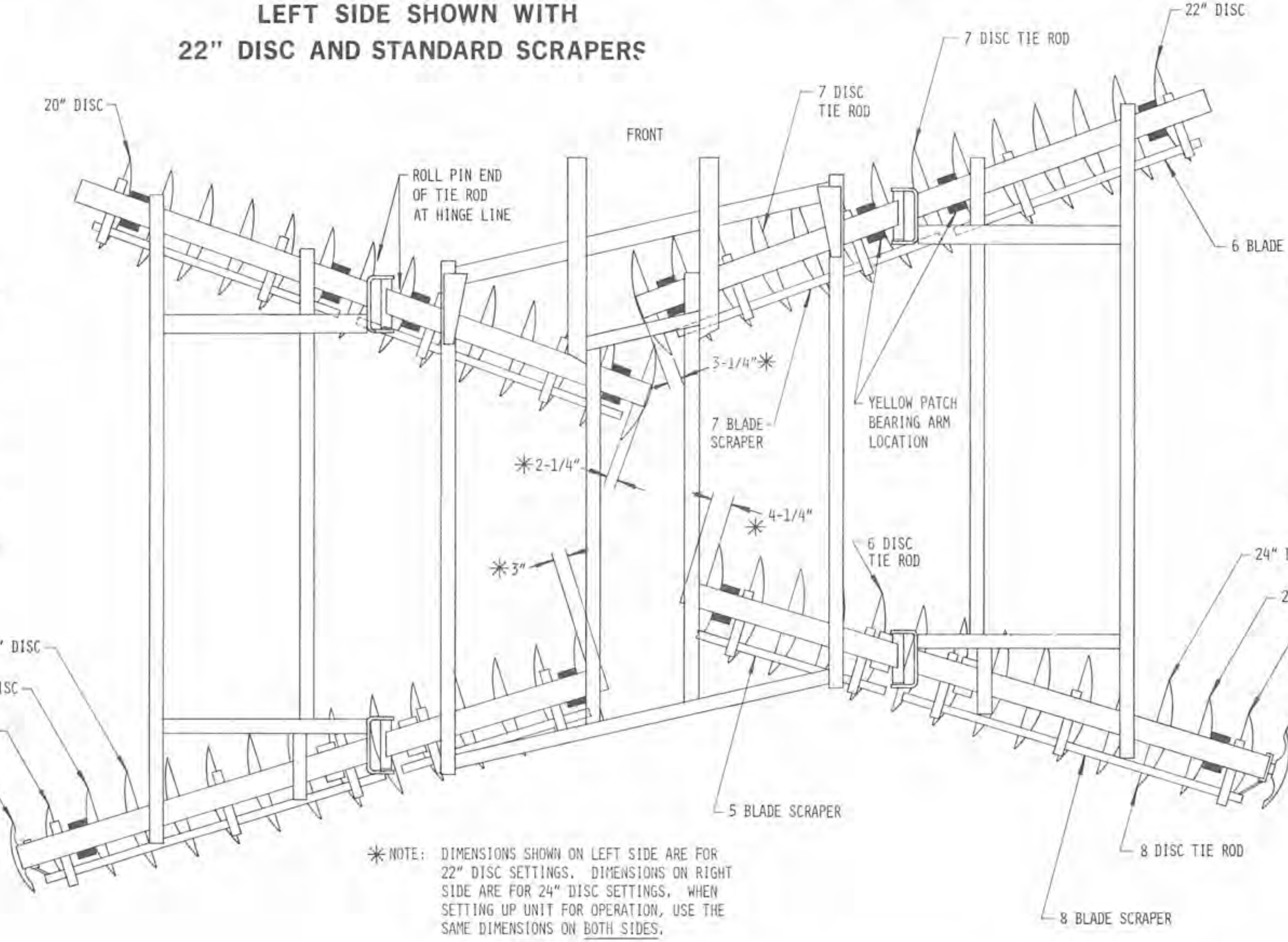
9-1/8" SPACING

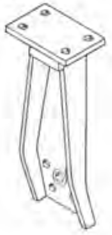
LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS



1918-10-0
BEARING ARM
ASSEMBLY
(YELLOW TOP)





1918-11-0
BEARING ARM
ASSEMBLY

✳ NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

8/83

MODEL 4904

TIE RODS

QTY. DISC	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	9-1/8"	2146-82-1	51-3/4"	22",24"	1015H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22",24"	1015H-972-0L
8	9-1/8"	2222-18-1	70"	22",24"	1015H-982-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QTY.
30-119	22"	50
30-108	20"	4
30-104	18"	2
30-148	16" Cut Out	2

DISC BLADES 24"

PART NUMBER	DIAMETER	QTY.
30-129	24"	50
30-119	22"	4
30-108	20"	2
30-147	18" Cut Out	2

SPRING LOADED SCRAPER GROUP 1904-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	*2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	*2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	6	2009-062-0A	2008-1-545	54-1/2"
Right Front Wing	6	2009-062-0B	2008-1-545	54-1/2"
Left Rear Wing	8 + EXT.	*2009-081-0B	2008-1-785	78-1/2"
Right Rear Wing	8 + EXT.	*2009-081-0A	2008-1-785	78-1/2"

RIGID SCRAPER GROUP (3-1/2") 1904-288-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	*952A-185-0	1159-183-1	60"
Right Front Center	7	*952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	6	*1404-181-0	963A-195-1	56"
Right Front Wing	6	*1404-182-0	963A-195-1	56"
Left Rear Wing	8 + EXT.	1404-184-0	956A-185-1	76"
Right Rear Wing	8 + EXT.	1404-183-0	956A-185-1	76"

RIGID SCRAPER GROUP (5") 4904-188-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	6	4904-180-0	2008-1-545	54-1/2"
Right Front Wing	6	4904-179-0	2008-1-545	54-1/2"
Left Rear Wing	8 + EXT.	4904-181-0	2008-1-785	78-1/2"
Right Rear Wing	8 + EXT.	4904-182-0	2008-1-785	78-1/2"

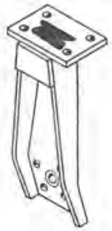
* COMBINATION SCRAPER GROUP 4904-488-0A (FOR 22" DISC ONLY) Rigid Scrapers on FRONT, Spring Loaded Scrapers on REAR

MODEL 4906

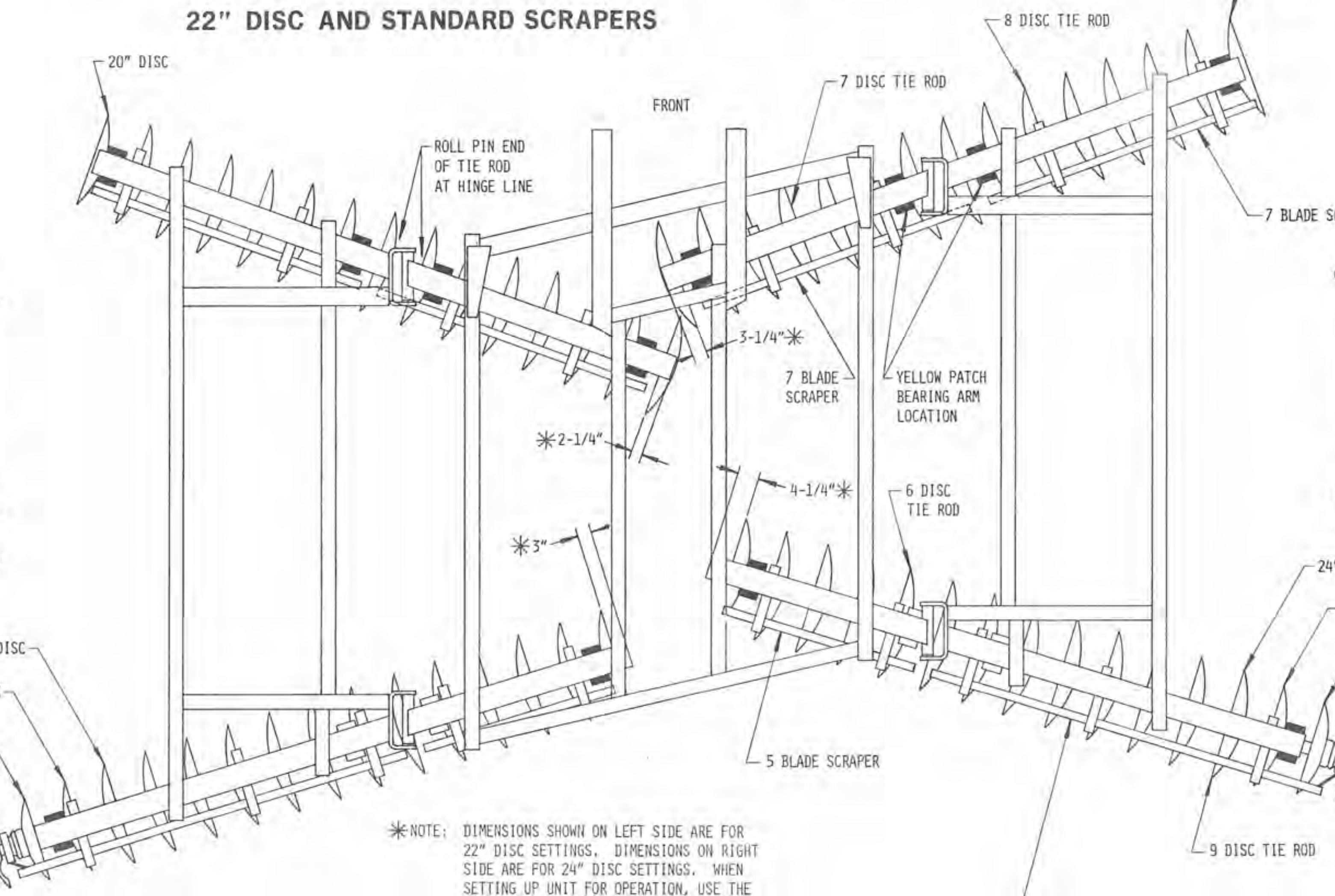
9-1/8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

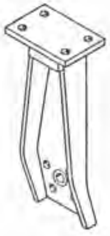
RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS



1918-10-0
BEARING ARM
ASSEMBLY
(YELLOW TOP)



✻NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.



1918-11-0
BEARING ARM
ASSEMBLY

8/83

MODEL 4906

TIE RODS

QTY. DISC	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	9-1/8"	2146-82-1	51-3/4"	22",24"	1015H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22",24"	1015H-972-0L
8	9-1/8"	2222-18-1	70"	22",24"	1015H-982-0L
9	9-1/8"	2224-18-1	79-1/8"	22",24"	1015H-992-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QTY.
30-159	22"	54
30-108	20"	4
30-104	18"	2
30-100	16" Cut Out	2

DISC BLADES 24"

PART NUMBER	DIAMETER	QTY.
30-129	24"	54
30-119	22"	4
30-108	20"	2
30-147	18" Cut Out	2

SPRING LOADED SCRAPER GROUP 4906-388-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	*2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	*2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Wing	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Wing	9 + EXT.	*2009-091-0B	2008-1-865	86-1/2"
Right Rear Wing	9 + EXT.	*2009-091-0A	2008-1-865	86-1/2"

RIGID SCRAPER GROUP (3-1/2") 4906-288-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	*952A-185-0	1159-183-1	60"
Right Front Center	7	*952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	7	*952A-185-0	1159-183-1	60"
Right Front Wing	7	*952A-186-0	1159-183-1	60"
Left Rear Wing	9 + EXT.	952A-184-0	955A-183-1	86"
Right Rear Wing	9 + EXT.	952A-183-0	955A-183-1	86"

RIGID SCRAPER GROUP (5") 4906-188-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	7	4901-180-0	2008-1-615	61-1/2"
Right Front Wing	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Wing	9 + EXT.	4906-179-0	2008-1-865	86-1/2"
Right Rear Wing	9 + EXT.	4906-180-0	2008-1-865	86-1/2"

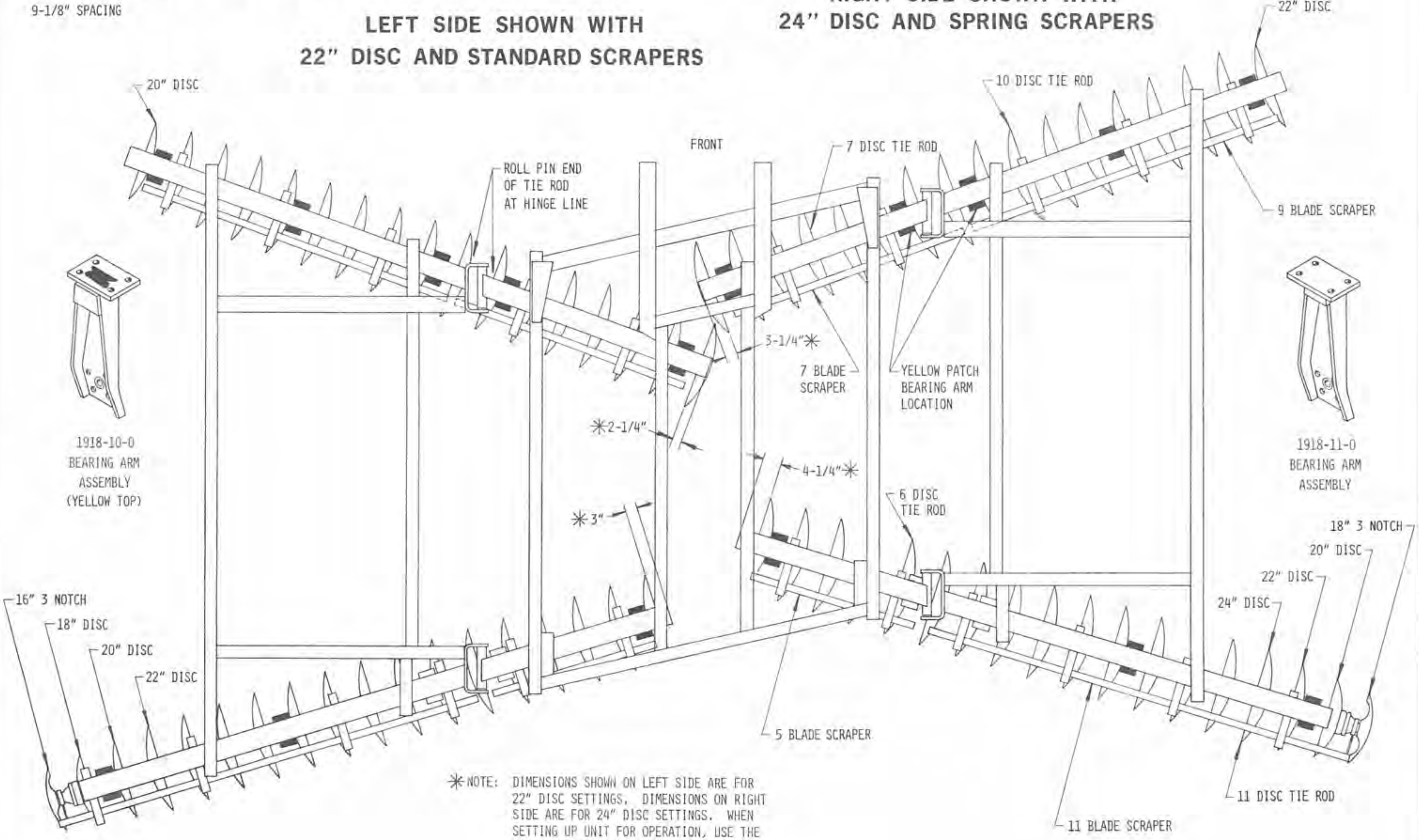
* COMBINATION SCRAPER GROUP (FOR 22" DISC ONLY) 4906-488-0 Rigid Scrapers on FRONT, Spring Loaded Scrapers on REAR

MODEL 4907

9-1/8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS



✳NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

8/83

MODEL 4907

TIE RODS

QTY. DISC	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	9-1/8"	2146-82-1	51-3/4"	22",24"	1015H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22",24"	1015H-972-0L
10	9-1/8"	2225-18-1	88-1/4"	22",24"	1015H-903-0L
11	9-1/8"	2227-18-1	97-3/8"	22",24"	1015H-913-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QTY.
30-119	22"	62
30-108	20"	4
30-104	18"	2
30-148	16" Cut Out	2

DISC BLADES 24"

PART NUMBER	DIAMETER	QTY.
30-129	24"	62
30-119	22"	4
30-108	20"	2
30-147	18" Cut Out	2

SPRING LOADED SCRAPER GROUP 1907-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	*2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	*2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	9	2009-090-0A	2008-1-795	79-1/2"
Right Front Wing	9	2009-090-0B	2008-1-795	79-1/2"
Left Rear Wing	11 + EXT.	*2009-111-0B	2008-1-104	104"
Left Rear Wing	11 + EXT.	*2009-111-0A	2008-1-104	104"

RIGID SCRAPER GROUP (3-1/2") 1907-288-0

Left Front Center	7	*952A-185-0	1159-183-1	60"
Right Front Center	7	*952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	9	*956A-185-0	956A-185-1	80"
Right Front Wing	9	*956A-186-0	956A-185-1	80"
Left Rear Wing	11 + EXT.	956A-184-0	956A-183-1	108"
Right Rear Wing	11 + EXT.	956A-183-0	956A-183-1	108"

RIGID SCRAPER GROUP (5") 4907-188-0

Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	9	4907-185-0	2008-1-795	79-1/2"
Right Front Wing	9	4907-186-0	2008-1-795	79-1/2"
Left Rear Wing	11 + EXT.	4907-183-0	2008-1-104	104"
Right Rear Wing	11 + EXT.	4907-184-0	2008-1-104	104"

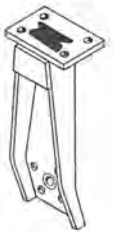
* COMBINATION SCRAPER GROUP 1907-488-0A (FOR 22" DISC ONLY) Rigid Scrapers on FRONT, Spring Loaded Scrapers on REAR

MODEL 4912

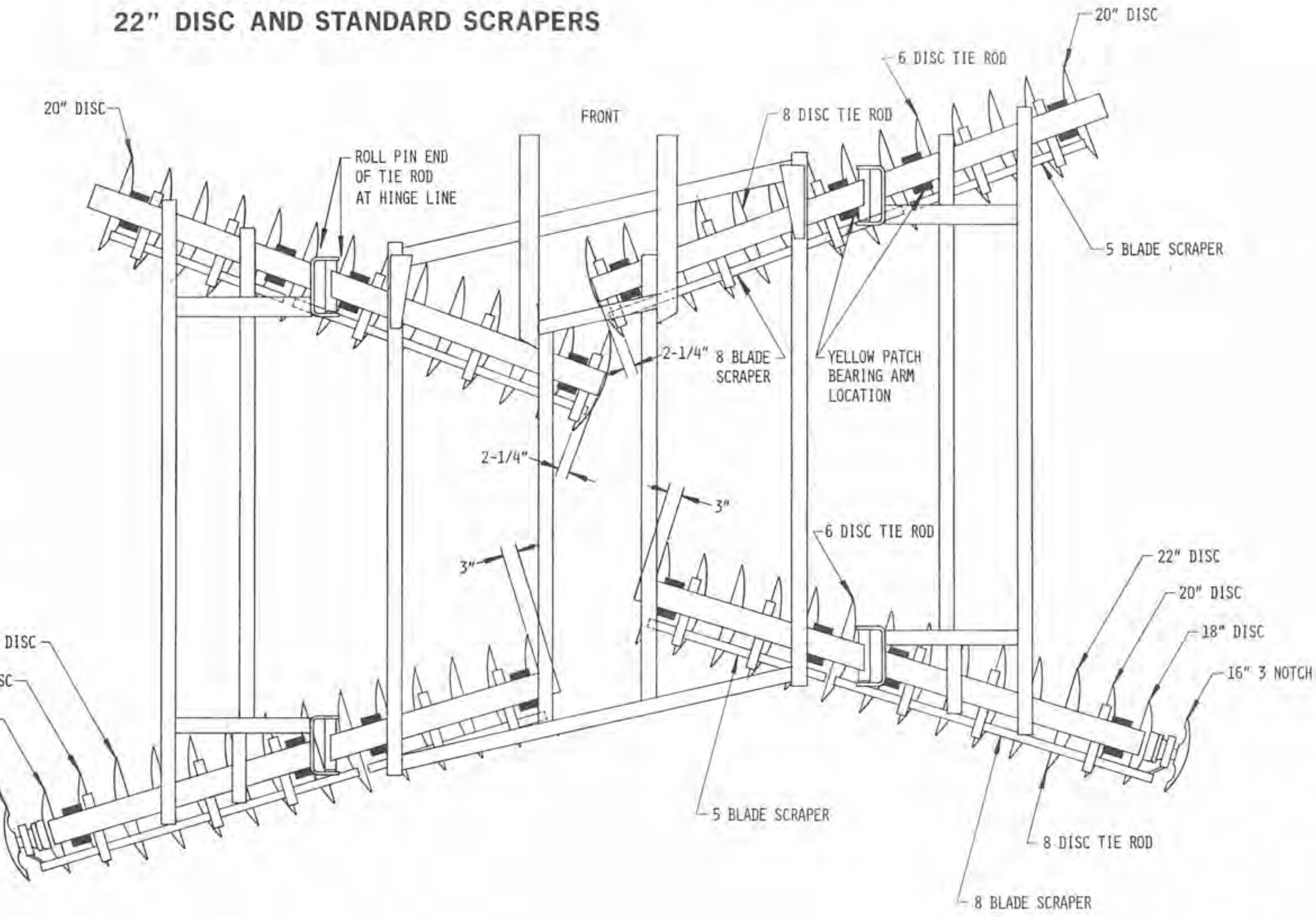
8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



1918-10-0
BEARING ARM
ASSEMBLY
(YELLOW TOP)



MODEL 4912

TIE RODS

QUANTITY BLADES	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1015H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1015H-882-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-119	22"	50
30-108	20"	4
30-104	18"	2
30-148	16" Cut Out	2

SPRING LOADED SCRAPER GROUP 1912-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	5	2008-050-0A	2008-1-385	38-1/2"
Right Front Wing	5	2008-050-0B	2008-1-385	38-1/2"
Left Rear Wing	8 + EXT.	2008-081-0B	2008-1-705	70-1/2"
Right Rear Wing	8 + EXT.	2008-081-0A	2008-1-705	70-1/2"

RIGID SCRAPER GROUP (3-1/2") 4912-288-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	5	1412-185-0	1412-186-1	38"
Right Front Wing	5	1412-186-0	1412-186-1	38"
Left Rear Wing	8 + EXT.	1412-184-0	1160-183-1	68"
Right Rear Wing	8 + EXT.	1412-183-0	1160-183-1	68"

COMBINATION SCRAPER GROUP 4912-488-0 (FOR 22" DISC ONLY)

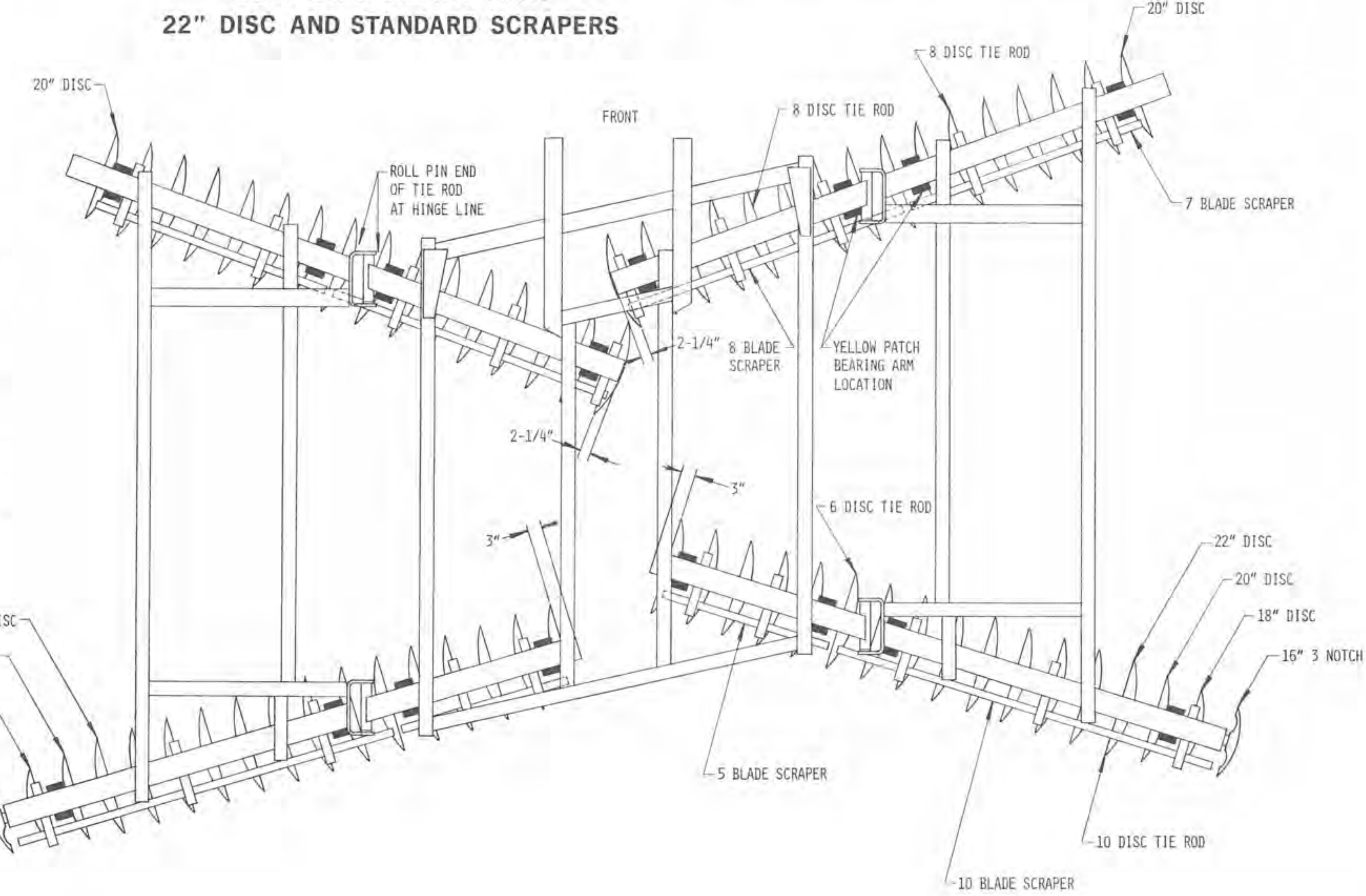
LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	5	1412-185-0	1412-186-1	38"
Right Front Wing	5	1412-186-0	1412-186-1	38"
Left Rear Wing	8 + EXT.	2008-081-0B	2008-1-705	70-1/2"
Right Rear Wing	8 + EXT.	2008-081-0A	2008-1-705	70-1/2"

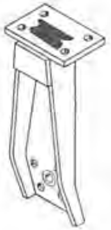
MODEL 4915

8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS





1918-10-0
BEARING ARM
ASSEMBLY
(YELLOW TOP)

MODEL 4915

TIE RODS

QUANTITY BLADES	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1015H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1015H-882-0L
10	8"	2214-18-1	78-3/8"	22"	1015H-802-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-119	22"	58
30-108	20"	4
30-104	18"	2
30-148	16" Cut Out	2

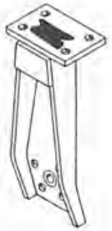
SPRING LOADED SCRAPER GROUP 1915-388-0A				
LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR NUMBER
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	7	2008-070-0A	2008-1-545	54-1/2"
Right Front Wing	7	2008-070-0B	2008-1-545	54-1/2"
Left Rear Wing	10 + EXT.	2008-101-0B	2008-1-865	86-1/2"
Right Rear Wing	10 + EXT.	2008-101-0A	2008-1-865	86-1/2"
RIGID SCRAPER GROUP (3-1/2") 4915-288-0				
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	7	963A-195-0	1159-185-1	54"
Right Front Wing	7	963A-196-0	1159-185-1	54"
Left Rear Wing	10 + EXT.	955A-184-0	955A-185-1	86"
Right Rear Wing	10 + EXT.	955A-183-0	955A-185-1	86"
COMBINATION SCRAPER GROUP (FOR 22" DISC ONLY) 4915-488-0				
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	7	963A-195-0	1159-185-1	54"
Right Front Wing	7	963A-196-0	1159-185-1	54"
Left Rear Wing	10 + EXT.	2008-101-0B	2008-1-865	86-1/2"
Right Rear Wing	10 + EXT.	2008-101-0A	2008-1-865	86-1/2"

MODEL 4916

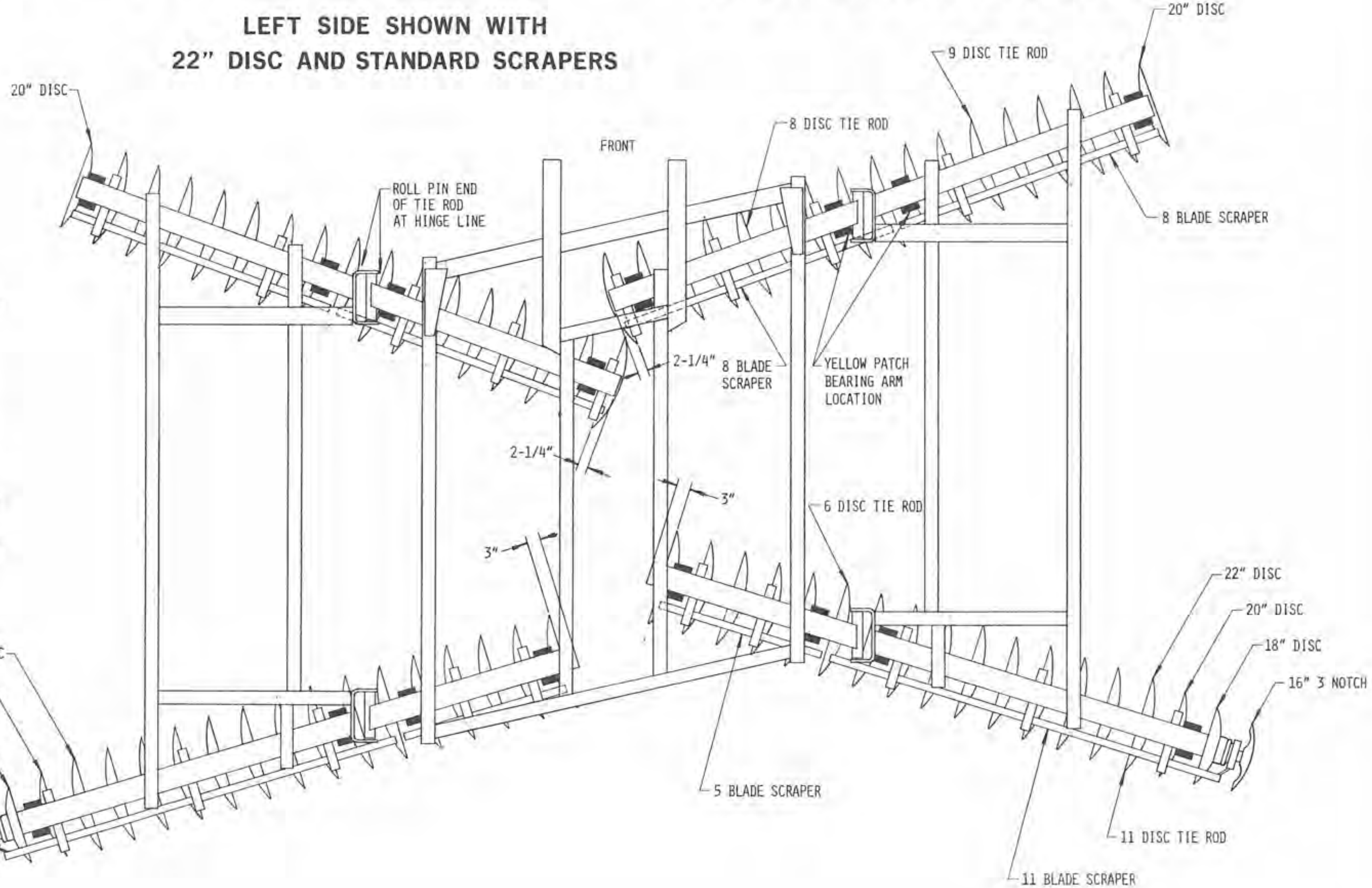
8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



1918-10-0
BEARING ARM
ASSEMBLY
(YELLOW TOP)



MODEL 4916

TIE RODS

QUANTITY BLADES	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1015H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1015H-882-0L
9	8"	2212-18-1	70-3/8"	22"	1015H-892-0L
11	8"	2215-18-1	86-1/2"	22"	1015H-812-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	62
30-108	20"	4
30-104	18"	2
30-100	16" Cut Out	2

SPRING LOADED SCRAPER GROUP 4916-388-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Wing	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Wing	11 + EXT.	2008-111-0B	2008-1-104	104"
Right Rear Wing	11 + EXT.	2008-111-0A	2008-1-104	104"

RIGID SCRAPER GROUP (3-1/2") 4916-288-0

Left Front Center	8	959A-185-0	959A-185-1	62"
Right Front Center	8	959A-186-0	959A-185-1	62"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	8	4912-185-0	4912-185-1	64"
Right Front Wing	8	4912-186-0	4912-185-1	64"
Left Rear Wing	11 + EXT.	1582-184-0	1163-183-1	92"
Right Rear Wing	11 + EXT.	1582-183-0	1163-183-1	92"

COMBINATION SCRAPER GROUP (FOR 22" DISC ONLY) 4916-488-0

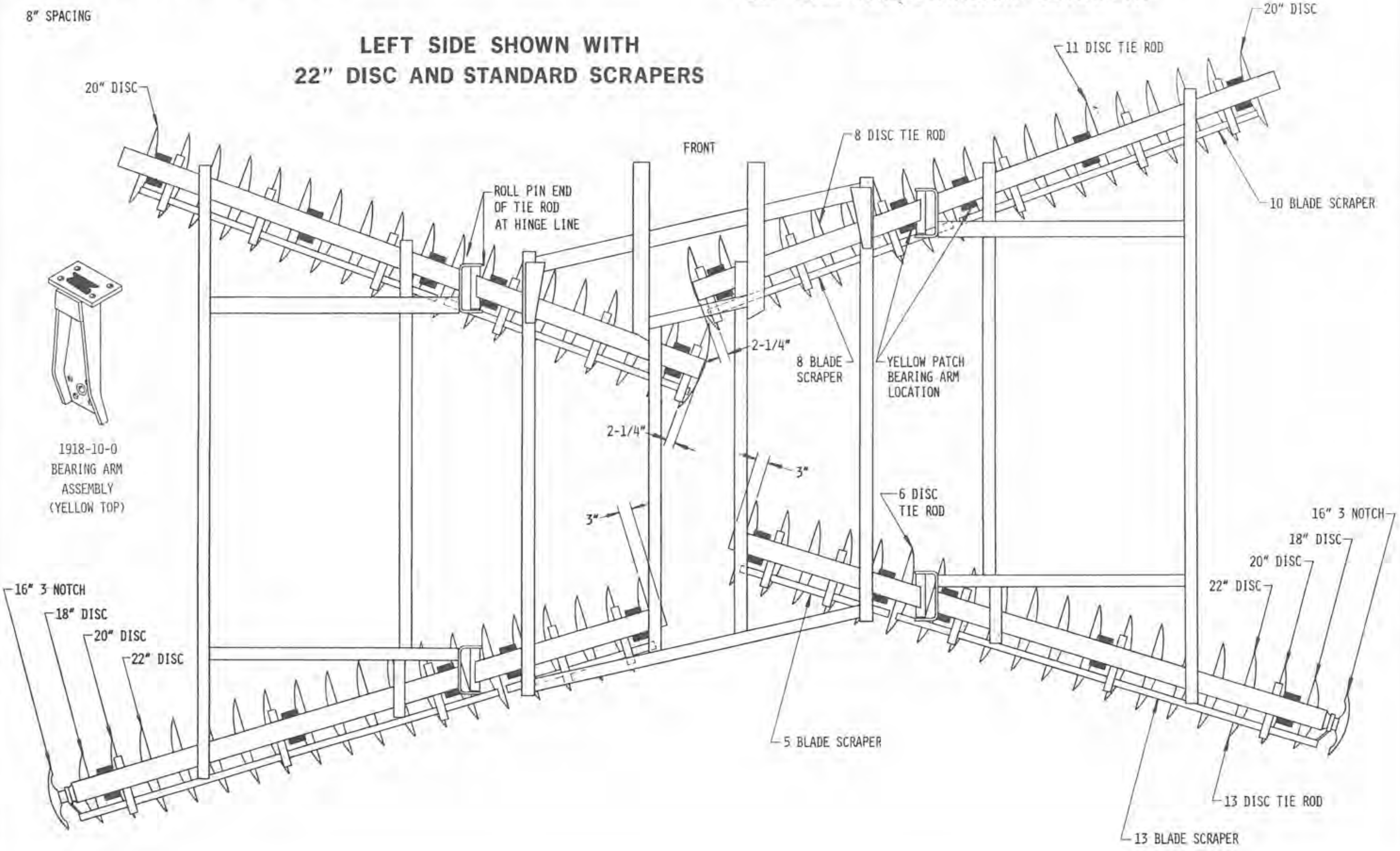
Left Front Center	8	959A-185-0	959A-185-1	62"
Right Front Center	8	959A-186-0	959A-185-1	62"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	8	4912-185-0	4912-185-1	64"
Right Front Wing	8	4912-186-0	4912-185-1	64"
Left Rear Wing	11 + EXT.	2008-111-0B	2008-1-104	104"
Right Rear Wing	11 + EXT.	2008-111-0A	2008-1-104	104"

MODEL 4918

8" SPACING

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



MODEL 4918

TIE RODS

QUANTITY BLADES	SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	TIE ROD ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1015H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1015H-882-0L
11	8"	2215-18-1	86-1/2"	22"	1015H-813-0L
13	8"	2217-18-1	102-1/2"	22"	1015H-833-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-119	22"	70
30-108	20"	4
30-104	18"	2
30-148	16" Cut Out	2

SPRING LOADED SCRAPER GROUP 1918-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	10	2008-100-0A	2008-1-785	78-1/2"
Right Front Wing	10	2008-100-0B	2008-1-785	78-1/2"
Left Rear Wing	13 + EXT.	2008-131-0B	2008-1-1085	108-1/2"
Right Rear Wing	13 + EXT.	2008-131-0A	2008-1-1085	108-1/2"

RIGID SCRAPER GROUP (3-1/2") 4918-288-0

Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	10	955A-185-0	955A-186-1	78"
Right Front Wing	10	955A-186-0	955A-186-1	78"
Left Rear Wing	13 + EXT.	1418-184-0	1165-183-1	108"
Right Rear Wing	13 + EXT.	1418-183-0	1165-183-1	108"

COMBINATION SCRAPER GROUP (FOR 22" DISC ONLY) 4918-488-0

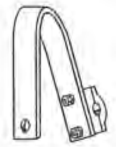
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	10	955A-185-0	955A-186-1	78"
Right Front Wing	10	955A-186-0	955A-186-1	78"
Left Rear Wing	13 + EXT.	2008-131-0B	2008-1-1085	108-1/2"
Right Rear Wing	13 + EXT.	2008-131-0A	2008-1-1085	108-1/2"

MODEL 4921

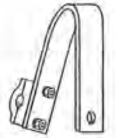
9-1/8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

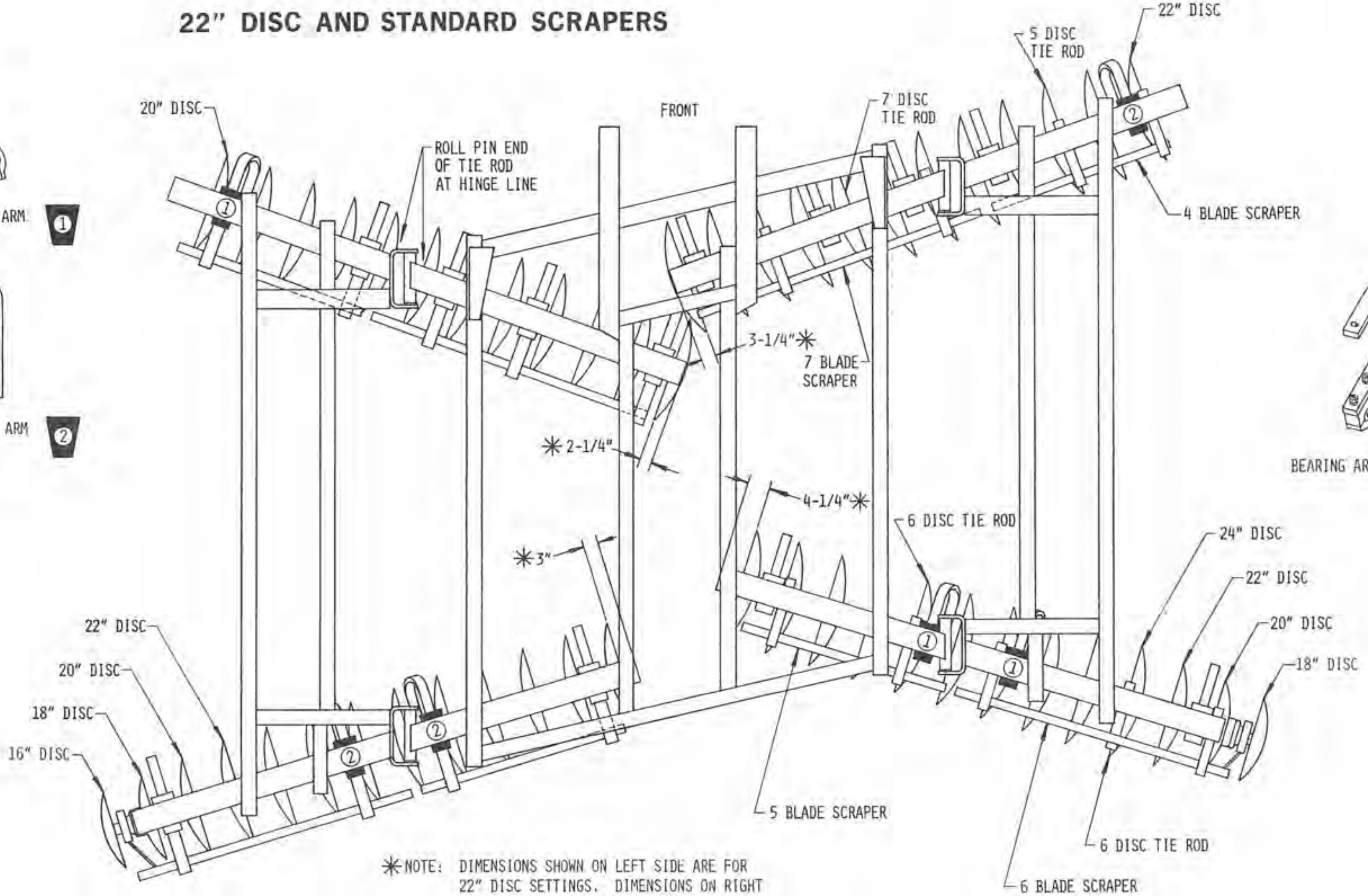
RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS

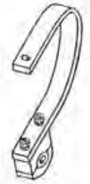


LEFT BEARING ARM ASSEMBLY ①



RIGHT BEARING ARM ASSEMBLY ②





BEARING ARM ASSEMBLY

✳NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

MODEL 4921

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
5	9-1/8"	1901-16-1	42-5/8"	22",24"	1017H-952-0L
6	9-1/8"	2146-82-1	51-3/4"	22",24"	1017H-962-0L
6	9-1/8"	2146-82-1	51-3/4"	22",24"	1017H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22",24"	1017H-973-0L

DISC BLADES 22″

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	42
30-108	20"	4
30-104	18"	2
30-100	16"	2

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Left & Right Front Center	2008-1-525	52-1/2"	1969-234-0
Left & Right Rear Center	2008-1-525	52-1/2"	
Left & Right Front Wing	2008-1-465	46-1/2"	1921-234-0
Left & Right Rear Wing	2008-1-525	52-1/2"	

DISC BLADES 24″

PART NUMBER	DIAMETER	QUANTITY
30-129	24"	42
30-119	22"	4
30-108	20"	2
30-102	18"	2

SPRING LOADED SCRAPER GROUP 1901-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	4	2009-042-0A	2008-1-385	38-1/2"
Right Front Wing	4	2009-042-0B	2008-1-385	38-1/2"
Left Rear Wing	6 + EXT.	2009-061-0B	2008-1-585	58-1/2"
Right Rear Wing	6 + EXT.	2009-061-0A	2008-1-585	58-1/2"

RIGID SCRAPER GROUP (3-1/2") 1901-288-0

Left Front Center	7	952A-185-0	1159-183-1	60"
Right Front Center	7	952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	4	1401-181-0	960A-185-1	40"
Right Front Wing	4	1401-182-0	960A-185-1	40"
Left Rear Wing	6 + EXT.	1401-184-0	1159-183-1	60"
Right Rear Wing	6 + EXT.	1401-183-0	1159-183-1	60"

RIGID SCRAPER GROUP (5") 4901-188-0

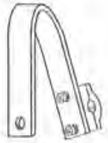
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	4	4901-184-0	2008-1-385	38-1/2"
Right Front Wing	4	4901-183-0	2008-1-385	38-1/2"
Left Rear Wing	6 + EXT.	4901-181-0	2008-1-585	58-1/2"
Right Rear Wing	6 + EXT.	4901-182-0	2008-1-585	58-1/2"

MODEL 4924

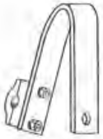
9-1/8" SPACING

RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS

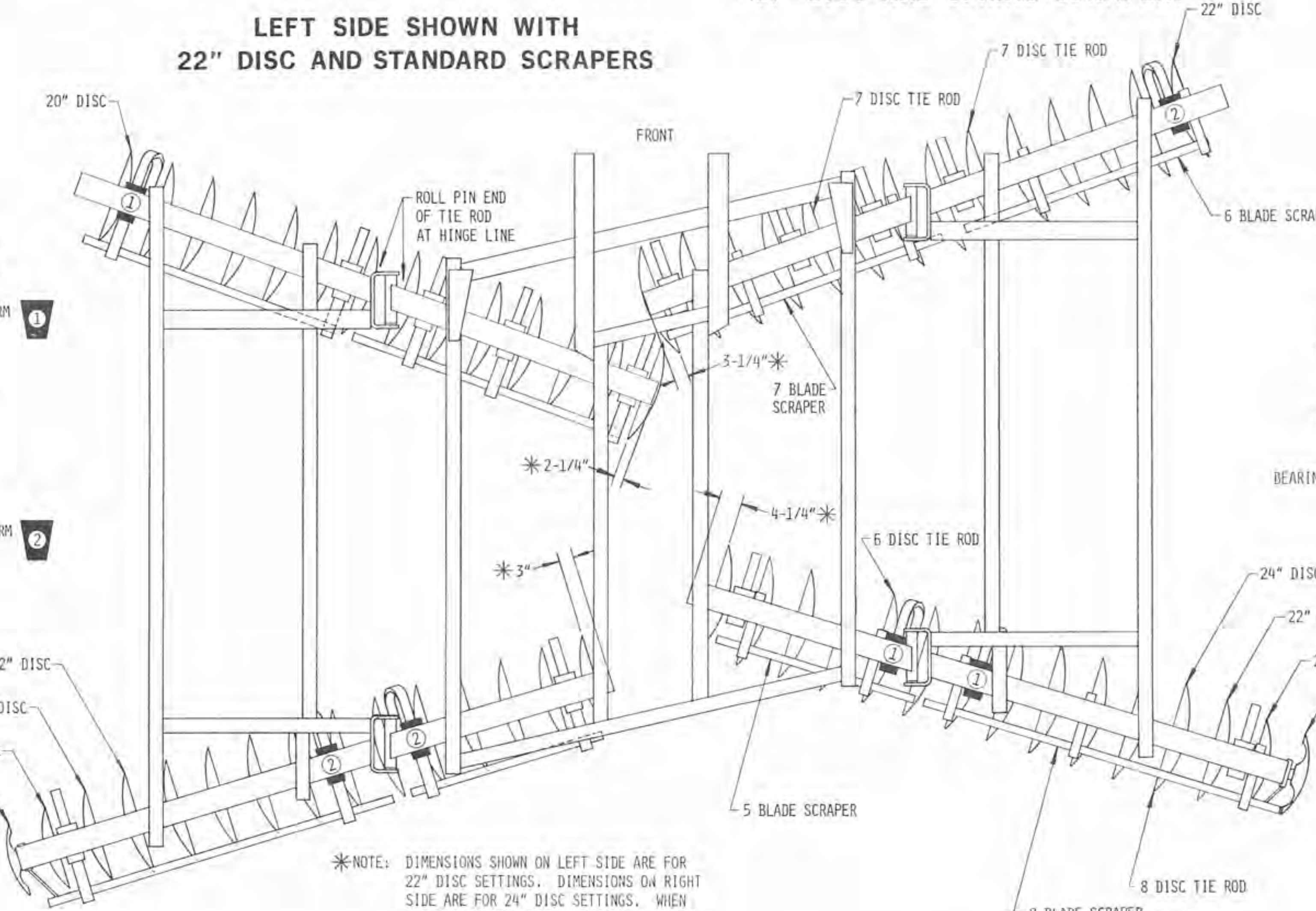
LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

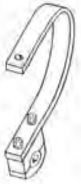


LEFT BEARING ARM ASSEMBLY ①



RIGHT BEARING ARM ASSEMBLY ②





BEARING ARM ASSEMBLY

✳NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

8/83

MODEL 4924

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	9-1/8"	2146-82-1	51-3/4"	22", 24"	1017H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22", 24"	1017H-972-0L
7	9-1/8"	2136-82-1	60-7/8"	22", 24"	1017H-973-01
8	9-1/8"	2222-18-1	70"	22", 24"	1017H-982-0L

DISC BLADES 22″

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	50
30-108	20"	4
30-104	18"	2
30-100	16"	2

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Left & Right Front Center	2008-1-525	52-1/2"	1969-234-0
Left & Right Rear Center	2008-1-525	52-1/2"	
Left & Right Front Wing	2008-1-615	61-1/2"	1924-234-0
Left & Right Rear Wing	2008-1-68	68"	

DISC BLADES 24″

PART NUMBER	DIAMETER	QUANTITY
30-129	24"	50
30-119	22"	4
30-108	20"	2
30-102	18"	2

SPRING LOADED SCRAPER GROUP 1904-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	6	2009-062-0A	2008-1-545	54-1/2"
Right Front Wing	6	2009-062-0B	2008-1-545	54-1/2"
Left Rear Wing	8 + EXT.	2009-081-0B	2008-1-785	78-1/2"
Right Rear Wing	8 + EXT.	2009-081-0A	2008-1-785	78-1/2"

RIGID SCRAPER GROUP (3-1/2") 1904-288-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	952A-185-0	1159-183-1	60"
Right Front Center	7	952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	6	1404-181-0	963A-195-1	56"
Right Front Wing	6	1404-182-0	963A-195-1	56"
Left Rear Wing	8 + EXT.	1404-184-0	956A-185-1	76"
Right Rear Wing	8 + EXT.	1404-183-0	956A-185-1	76"

RIGID SCRAPER GROUP (5") 4904-188-0

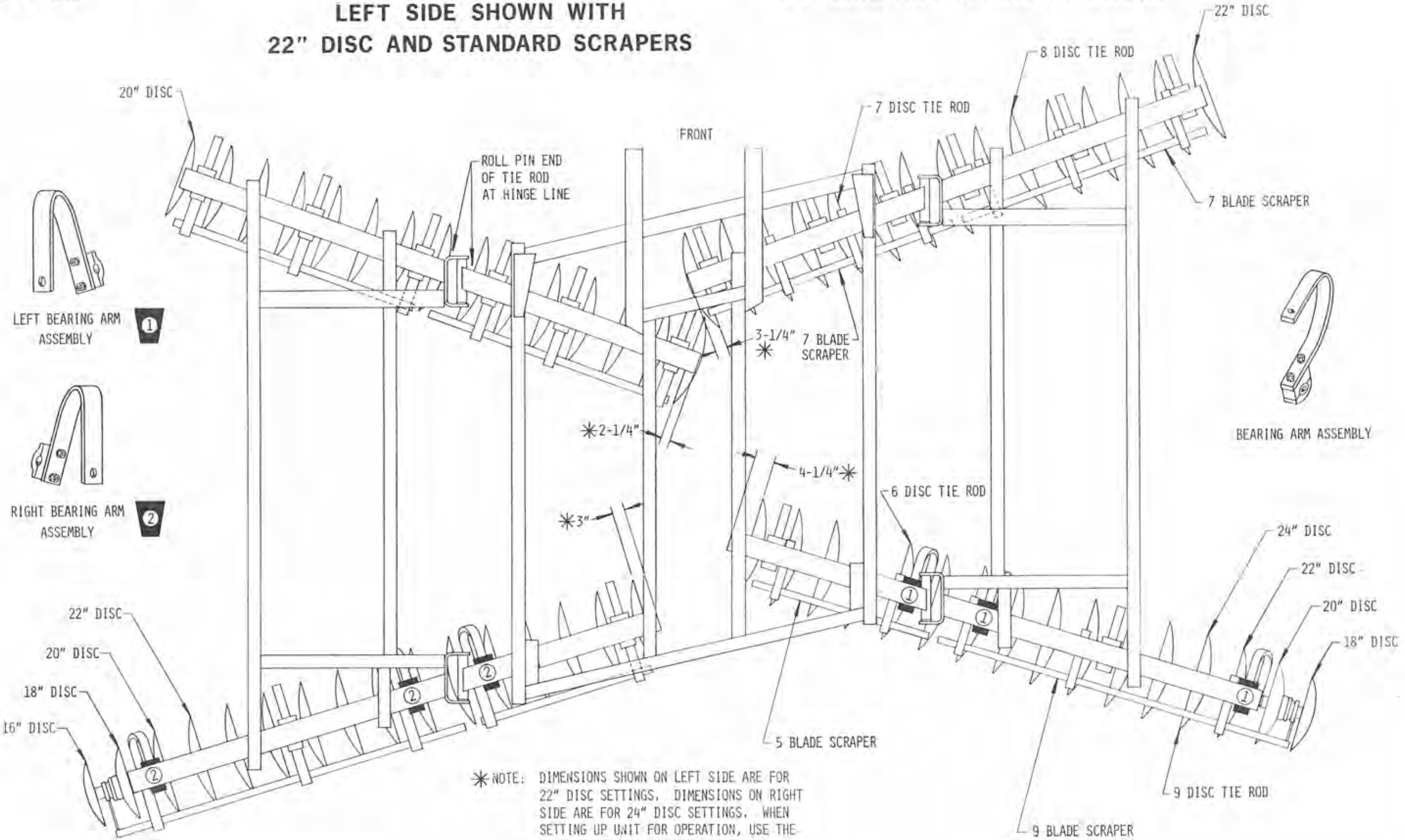
LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	6	4904-180-0	2008-1-545	54-1/2"
Right Front Wing	6	4904-179-0	2008-1-545	54-1/2"
Left Rear Wing	8 + EXT.	4904-181-0	2008-1-785	78-1/2"
Right Rear Wing	8 + EXT.	4904-182-0	2008-1-785	78-1/2"

MODEL 4926

9-1/8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 24" DISC AND SPRING SCRAPERS



✳NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

2/84

MODEL 4926

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	9-1/8"	2146-82-1	51-3/4"	22", 24"	1017H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22", 24"	1017H-973-0L
8	9-1/8"	2222-18-1	70"	22", 24"	1017H-983-0L
9	9-1/8"	2224-18-1	79-1/8"	22", 24"	1017H-993-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	54
30-108	20"	4
30-104	18"	2
30-100	16"	2

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Left & Right Front Center	2008-1-525	52-1/2"	1969-234-0
Left & Right Rear Center	2008-1-525	52-1/2"	
Left & Right Front Wing	2008-1-68	68"	1964-234-0
Left & Right Rear Wing	2008-1-785	78-1/2"	

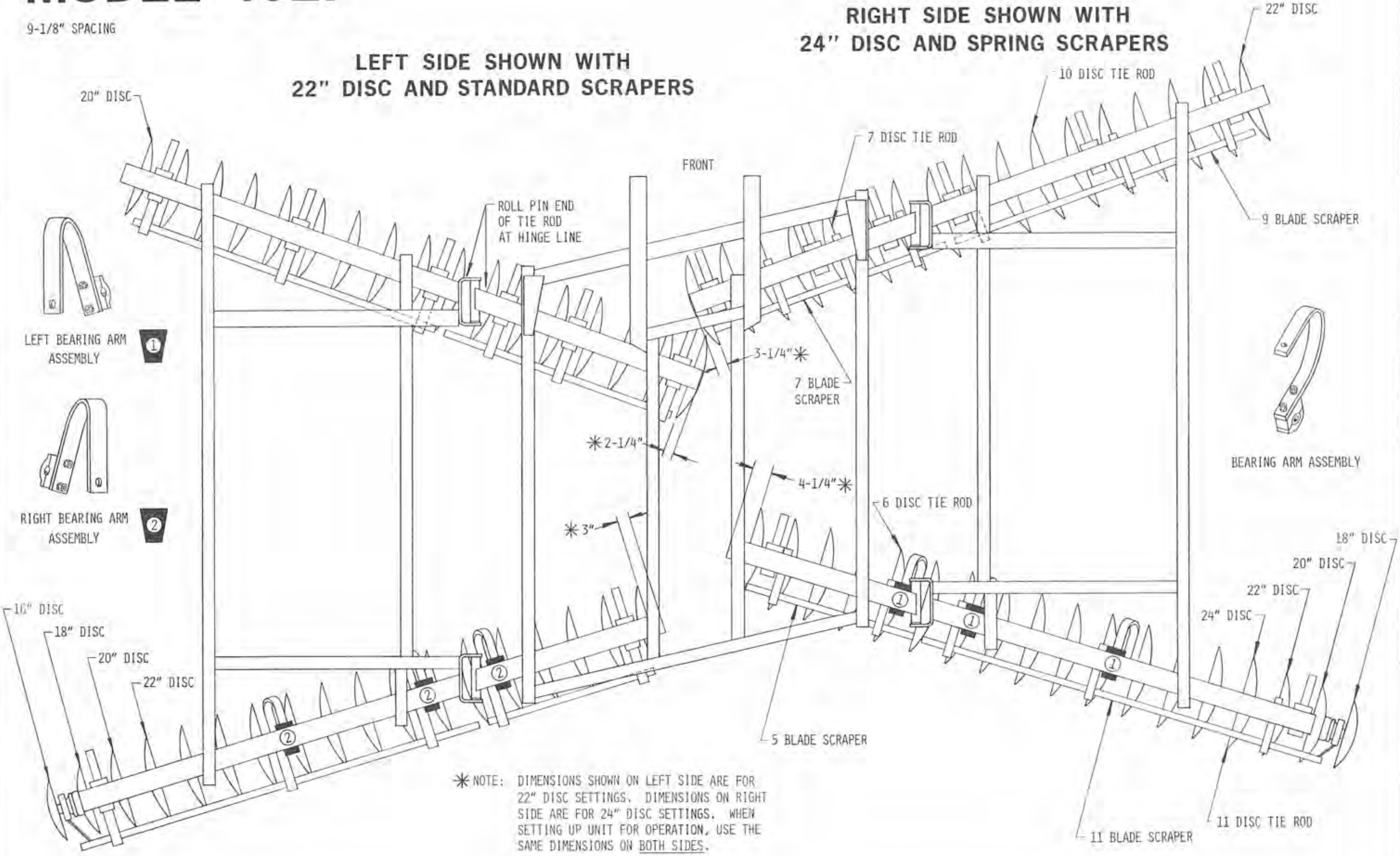
DISC BLADES 24"

PART NUMBER	DIAMETER	QUANTITY
30-129	24"	54
30-119	22"	4
30-108	20"	2
30-102	18"	2

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
SPRING LOADED SCRAPER GROUP 4906-388-0				
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Wing	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Wing	9 + EXT.	2009-091-0B	2008-1-865	86-1/2"
Right Rear Wing	9 + EXT.	2009-091-0A	2008-1-865	86-1/2"
RIGID SCRAPER GROUP (3-1/2") 4906-288-0				
Left Front Center	7	952A-185-0	1159-183-1	60"
Right Front Center	7	952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	7	952A-185-0	1159-183-1	60"
Right Front Wing	7	952A-186-0	1159-183-1	60"
Left Rear Wing	9 + EXT.	952A-184-0	955A-183-1	86"
Right Rear Wing	9 + EXT.	952A-183-0	955A-183-1	86"
RIGID SCRAPER GROUP (5") 4906-188-0				
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	7	4901-180-0	2008-1-615	43-1/2"
Right Front Wing	7	4901-179-0	2008-1-615	43-1/2"
Left Rear Wing	9 + EXT.	4906-179-0	2008-1-865	86-1/2"
Right Rear Wing	9 + EXT.	4906-180-0	2008-1-865	86-1/2"

MODEL 4927

9-1/8" SPACING



LEFT SIDE SHOWN WITH
22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH
24" DISC AND SPRING SCRAPERS

✳NOTE: DIMENSIONS SHOWN ON LEFT SIDE ARE FOR 22" DISC SETTINGS. DIMENSIONS ON RIGHT SIDE ARE FOR 24" DISC SETTINGS. WHEN SETTING UP UNIT FOR OPERATION, USE THE SAME DIMENSIONS ON BOTH SIDES.

MODEL 4927

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	9-1/8"	2146-82-1	51-3/4"	22", 24"	1017H-962-0L
7	9-1/8"	2136-82-1	60-7/8"	22", 24"	1017H-973-0L
10	9-1/8"	2225-18-1	88-1/4"	22", 24"	1017H-903-0L
11	9-1/8"	2227-18-1	97-3/8"	22", 24"	1017H-913-0L

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	62
30-108	20"	4
30-104	18"	2
30-100	16"	2

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Left & Right Front Center	2008-1-525	52-1/2"	1969-234-0
Left & Right Rear Center	2008-1-525	52-1/2"	
Left & Right Front Wing	2008-1-865	86-1/2"	1968-234-0
Left & Right Rear Wing	2008-1-945	94-1/2"	

DISC BLADES 24"

PART NUMBER	DIAMETER	QUANTITY
30-129	24"	62
30-119	22"	4
30-108	20"	2
30-102	18"	2

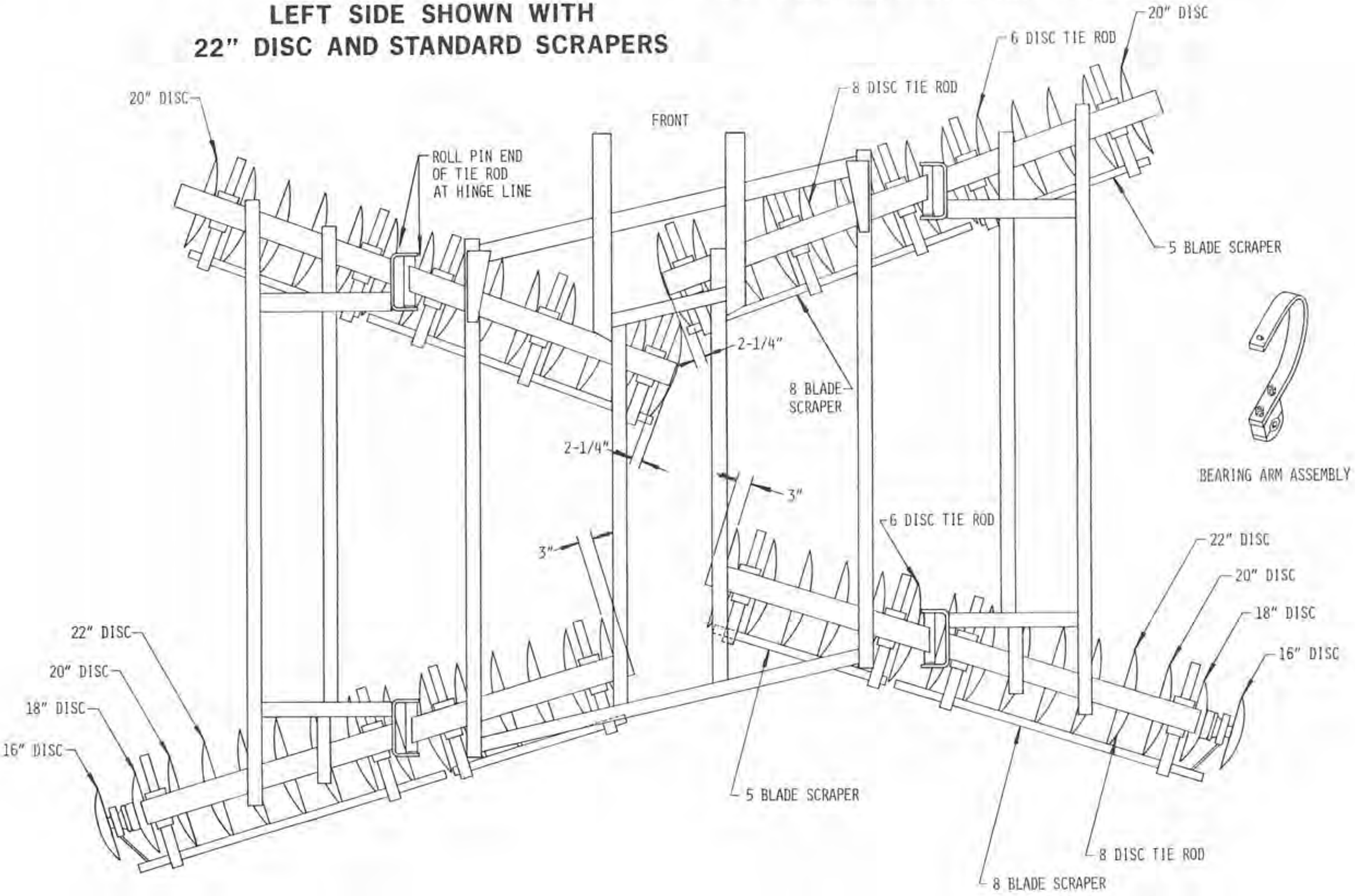
LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
SPRING LOADED SCRAPER GROUP 1907-388-0A				
Left Front Center	7	2009-070-0A	2008-1-615	61-1/2"
Right Front Center	7	2009-070-0B	2008-1-615	61-1/2"
Left Rear Center	5	2009-050-0B	2008-1-435	43-1/2"
Right Rear Center	5	2009-050-0A	2008-1-435	43-1/2"
Left Front Wing	9	2009-090-0A	2008-1-795	79-1/2"
Right Front Wing	9	2009-090-0B	2008-1-795	79-1/2"
Left Rear Wing	11 + EXT.	2009-111-0B	2008-1-104	104"
Right Rear Wing	11 + EXT.	2009-111-0A	2008-1-104	104"
RIGID SCRAPER GROUP (3-1/2") 1907-288-0				
Left Front Center	7	952A-185-0	1159-183-1	60"
Right Front Center	7	952A-186-0	1159-183-1	60"
Left Rear Center	5	960A-186-0	960A-186-1	42"
Right Rear Center	5	960A-185-0	960A-186-1	42"
Left Front Wing	9	956A-185-0	956A-185-1	80"
Right Front Wing	9	956A-186-0	956A-185-1	80"
Left Rear Wing	11 + EXT.	956A-184-0	1165-183-1	108"
Right Rear Wing	11 + EXT.	956A-183-0	1165-183-1	108"
RIGID SCRAPER GROUP (5") 4907-188-0				
Left Front Center	7	4901-180-0	2008-1-615	61-1/2"
Right Front Center	7	4901-179-0	2008-1-615	61-1/2"
Left Rear Center	5	4901-185-0	2008-1-435	43-1/2"
Right Rear Center	5	4901-186-0	2008-1-435	43-1/2"
Left Front Wing	9	4907-185-0	2008-1-795	79-1/2"
Right Front Wing	9	4907-186-0	2008-1-795	79-1/2"
Left Rear Wing	11 + EXT.	4907-183-0	2008-1-104	104"
Right Rear Wing	11 + EXT.	4907-184-0	2008-1-104	104"

MODEL 4932

8" SPACING

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



2/84

MODEL 4932

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1017H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1017H-883-0L
8	8"	2138-82-1	62-3/8"	22"	1017H-882-0L

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Front Center	2008-1-525	52-1/2"	1921-234-0
Rear Center	2008-1-465	46-1/2"	
Front Wing	2008-1-465	46-1/2"	1922-234-0
Rear Wing	2008-1-615	61-1/2"	

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	50
30-108	20"	4
30-104	18"	2
30-100	16"	2

SPRING LOADED SCRAPER GROUP 1912-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	5	2008-050-0A	2008-1-385	38-1/2"
Right Front Wing	5	2008-050-0B	2008-1-385	38-1/2"
Left Rear Wing	8 + EXT.	2008-081-0B	2008-1-705	70-1/2"
Right Rear Wing	8 + EXT.	2008-081-0A	2008-1-705	70-1/2"

RIGID SCRAPER GROUP (3-1/2") 4912-288-0

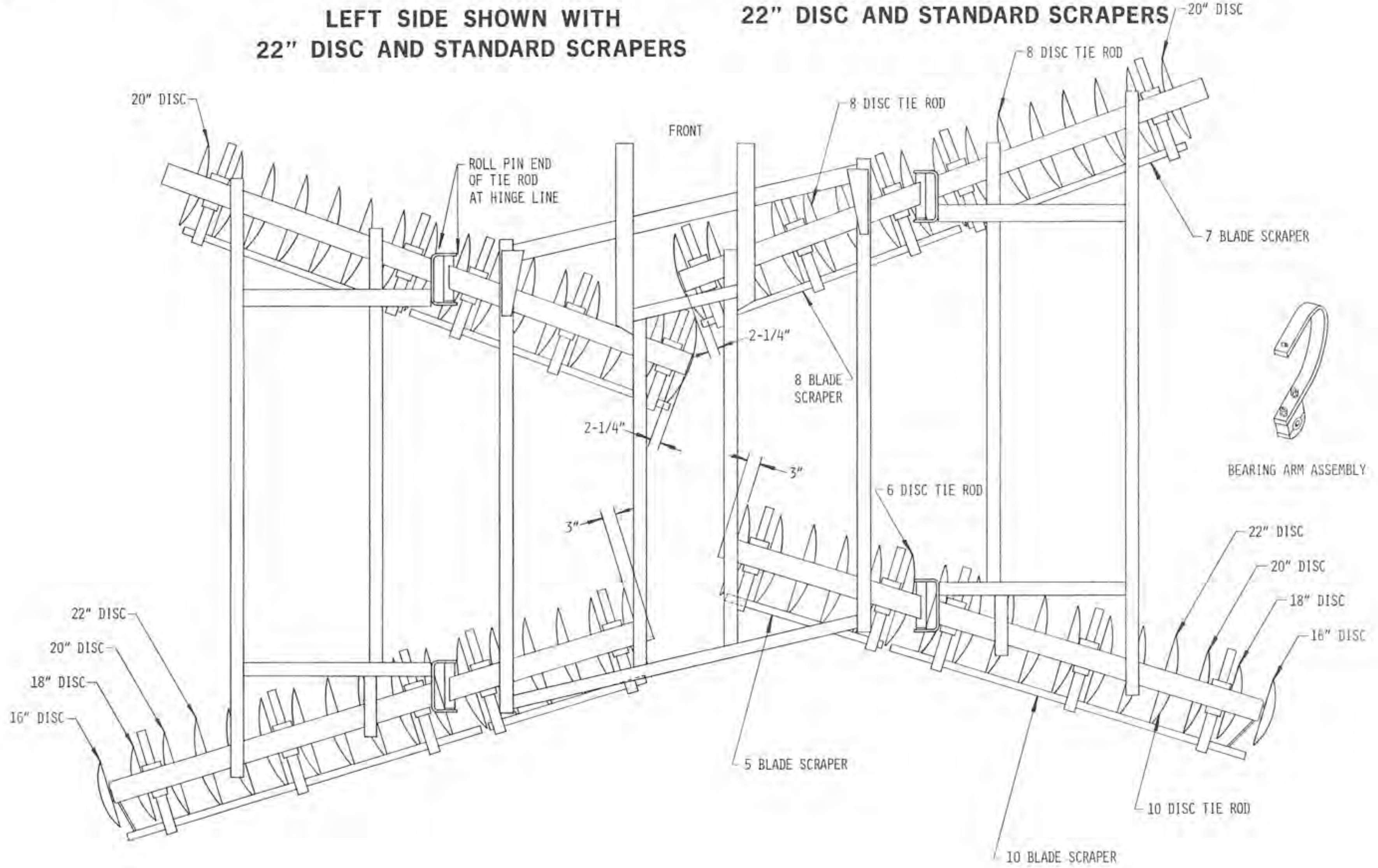
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	5	1412-185-0	1412-186-1	38"
Right Front Wing	5	1412-186-0	1412-186-1	38"
Left Rear Wing	8 + EXT.	1412-184-0	1160-183-1	68"
Right Rear Wing	8 + EXT.	1412-183-0	1160-183-1	68"

MODEL 4935

8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1017H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1017H-882-0L
8	8"	2138-82-1	62-3/8"	22"	1017H-883-0L
10	8"	2214-18-1	78-3/8"	22"	1017H-803-0L

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Front Center	2008-1-525	52-1/2"	1976-235-0
Rear Wing	2008-1-785	78-1/2"	
Front Wing	2008-1-615	61-1/2"	1922-234-0
Rear Center	2008-1-465	46-1/2"	

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	58
30-108	20"	4
30-104	18"	2
30-100	16"	2

SPRING LOADED SCRAPER GROUP 1915-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	7	2008-070-0A	2008-1-545	54-1/2"
Right Front Wing	7	2008-070-0B	2008-1-545	54-1/2"
Left Rear Wing	10 + EXT.	2008-101-0B	2008-1-865	86-1/2"
Right Rear Wing	10 + EXT.	2008-101-0A	2008-1-865	86-1/2"

RIGID SCRAPER GROUP (3-1/2") 4915-288-0

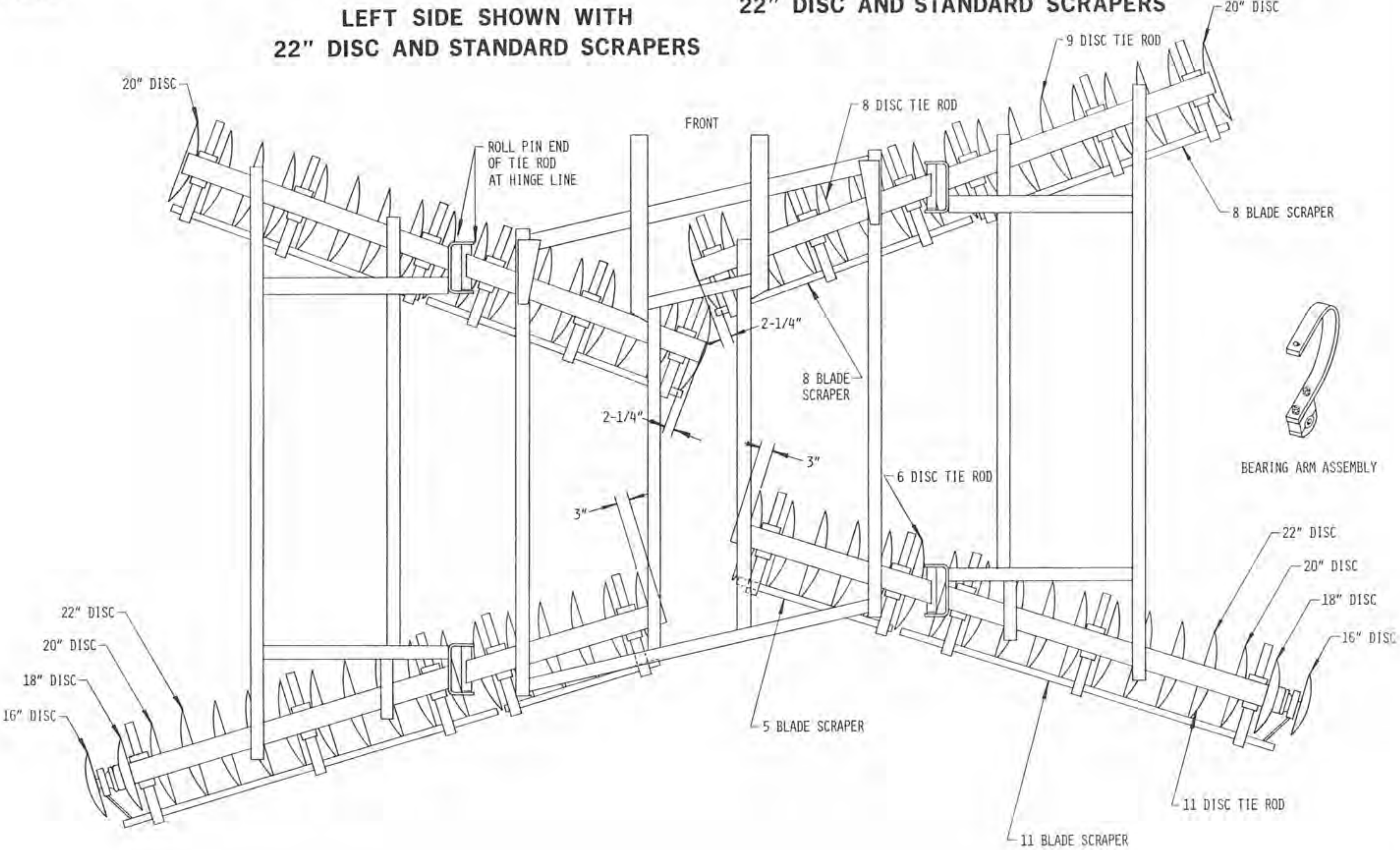
LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	7	963A-195-0	1159-185-1	54"
Right Front Wing	7	963A-196-0	1159-185-1	54"
Left Rear Wing	10 + EXT.	955A-184-0	955A-185-1	86"
Right Rear Wing	10 + EXT.	955A-183-0	955A-185-1	86"

MODEL 4936

8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



2/84

MODEL 4936

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1017H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1017H-883-0L
9	8"	2212-18-1	70-3/8"	22"	1017H-893-0L
11	8"	2215-18-1	86-1/2"	22"	1017H-813-0L

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Front Center	2008-1-68	68"	4936-234-0
Rear Wing	2008-1-865	86-1/2"	
Front Wing	2008-1-785	78-1/2"	1976-235-0
Rear Center	2008-1-465	46-1/2"	

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	62
30-108	20"	4
30-104	18"	2
30-100	16"	2

SPRING LOADED SCRAPER GROUP 4916-388-0

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Wing	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Wing	11 + EXT.	2008-111-0B	2008-1-104	104"
Right Rear Wing	11 + EXT.	2008-111-0A	2008-1-104	104"

RIGID SCRAPER GROUP (3-1/2") 4916-288-0

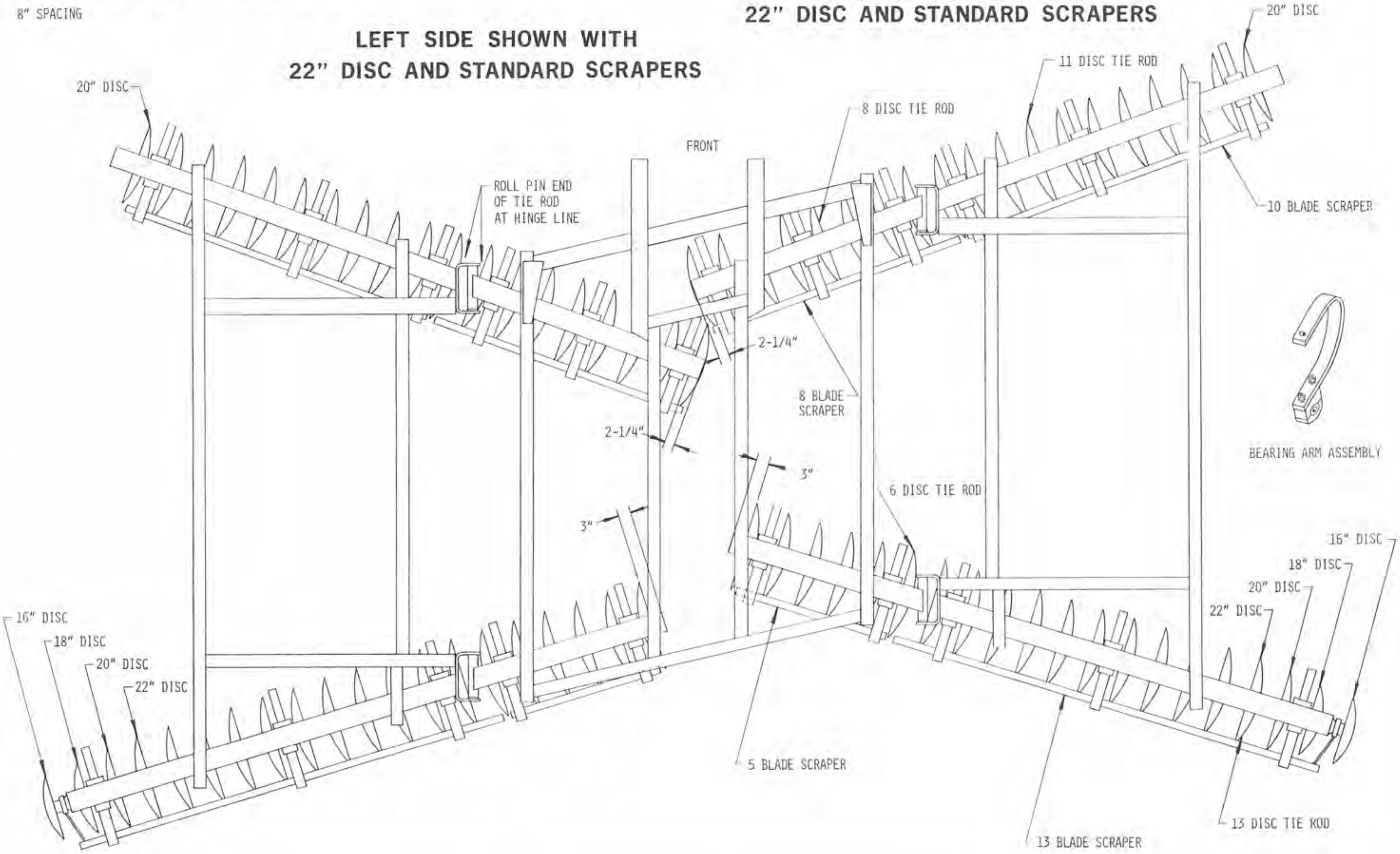
LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	959A-185-0	959A-185-1	62"
Right Front Center	8	959A-186-0	959A-185-1	62"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	8	4912-185-0	4912-185-1	64"
Right Front Wing	8	4912-186-0	4912-185-1	64"
Left Rear Wing	11 + EXT.	1582-184-0	1163-183-1	92"
Right Rear Wing	11 + EXT.	1582-183-0	1163-183-1	92"

MODEL 4938

8" SPACING

LEFT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS

RIGHT SIDE SHOWN WITH 22" DISC AND STANDARD SCRAPERS



MODEL 4938

2/84

TIE RODS

QUANTITY OF DISC	DISC SPACING	TIE ROD NUMBER	LENGTH	BLADE SIZE	DUCTILE SPOOL ASSEMBLY
6	8"	1912-18-1	46-1/4"	22"	1017H-862-0L
8	8"	2138-82-1	62-3/8"	22"	1017H-883-0L
11	8"	2215-18-1	86-1/2"	22"	1017H-813-0L
13	8"	2217-18-1	102-1/2"	22"	1017H-833-0L

TRASH BARS

LOCATION	PART NUMBER	LENGTH	BUNDLE NUMBER
Front Center	2008-1-525	52-1/2"	1921-234-0
Rear Center	2008-1-465	46-1/2"	
Front Wing	2008-1-865	86-1/2"	1928-234-0
Rear Wing	2008-1-104	104"	

DISC BLADES 22"

PART NUMBER	DIAMETER	QUANTITY
30-159	22"	70
30-108	20"	4
30-104	18"	2
30-100	16"	2

SPRING LOADED SCRAPER GROUP 1918-388-0A

LOCATION	NUMBER SCRAPERS	SCRAPER ASSEMBLY	SCRAPER BAR	SCRAPER BAR LENGTH
Left Front Center	8	2008-080-0A	2008-1-625	62-1/2"
Right Front Center	8	2008-080-0B	2008-1-625	62-1/2"
Left Rear Center	5	2008-050-0B	2008-1-385	38-1/2"
Right Rear Center	5	2008-050-0A	2008-1-385	38-1/2"
Left Front Wing	10	2008-100-0A	2008-1-785	78-1/2"
Right Front Wing	10	2008-100-0B	2008-1-785	78-1/2"
Left Rear Wing	13 + EXT.	2008-131-0B	2008-1-108	108"
Right Rear Wing	13 + EXT.	2008-131-0A	2008-1-108	108"

RIGID SCRAPER GROUP (3-1/2") 4918-288-0

Left Front Center	8	4912-185-0	4912-185-1	64"
Right Front Center	8	4912-186-0	4912-185-1	64"
Left Rear Center	5	1412-186-0	1412-186-1	38"
Right Rear Center	5	1412-185-0	1412-186-1	38"
Left Front Wing	10	955A-185-0	955A-186-1	78"
Right Front Wing	10	955A-186-0	955A-186-1	78"
Left Rear Wing	13 + EXT.	1418-184-0	1165-183-1	108"
Right Rear Wing	13 + EXT.	1418-183-0	1165-183-1	108"

⚠ SAFETY FIRST

Be observant and safety minded. Recognize and correct or avoid hazardous conditions before an accident can happen. Most accidents can be prevented by practicing simple fundamental safety rules.

1. Read and understand the implement and tractor owner's manuals before operating.
2. Be sure safety decals and reflectors are clean and in place.
3. Do not climb or walk on gangs or frames or tires.
4. Never position yourself under any portion of implement unless the transport lock is engaged or entire unit is lowered to the ground.
5. Stop engine before leaving operator's position to adjust, lubricate, clean or unclog the machine.
6. Do not stand between the implement and tractor unless tractor brakes are locked and engine is shut off.
7. Do not stand on or straddle a tongue when unhitching.
8. Always store a winged implement with the wings down.
9. Never remove locking pins until hydraulic cylinders and lines are full of oil and free of air. See operating instructions for proper method of removing air.
10. Never use machinery until all safety devices are in place.
11. Release all hydraulic pressure before shutdown periods.
12. Comply with Federal, State and local laws.
13. Use a Slow-Moving-Vehicle emblem when roading.
14. Always use a safety chain of tensile strength equal to the gross weight of the implement and attachments when roading.
15. Towing vehicle weight must exceed weight of towed implement.
16. Check wheel bolts before and during transport.
17. Always use wing locks and road locks to hold raised positions.
18. Never permit riders on implement.
19. Do not road an implement over 15 miles per hour on the best surface conditions. Reduce speed when going up or down hills and approaching ditches or corners.
20. Keep small children away from farm equipment.
21. Never modify an implement without permission from the Krause Engineering Department.
22. Always use authorized Krause parts.

10/80